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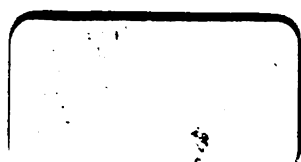
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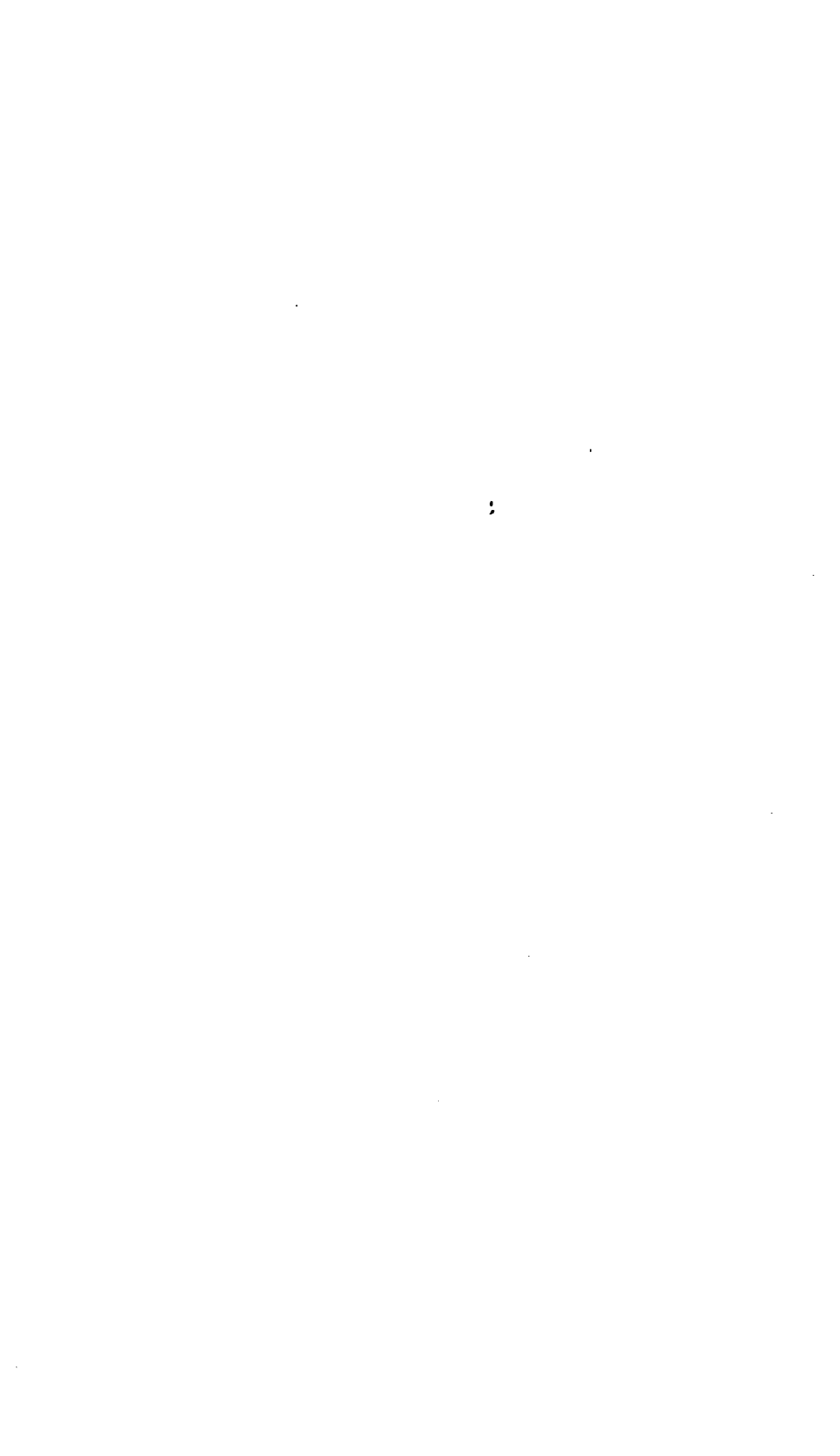
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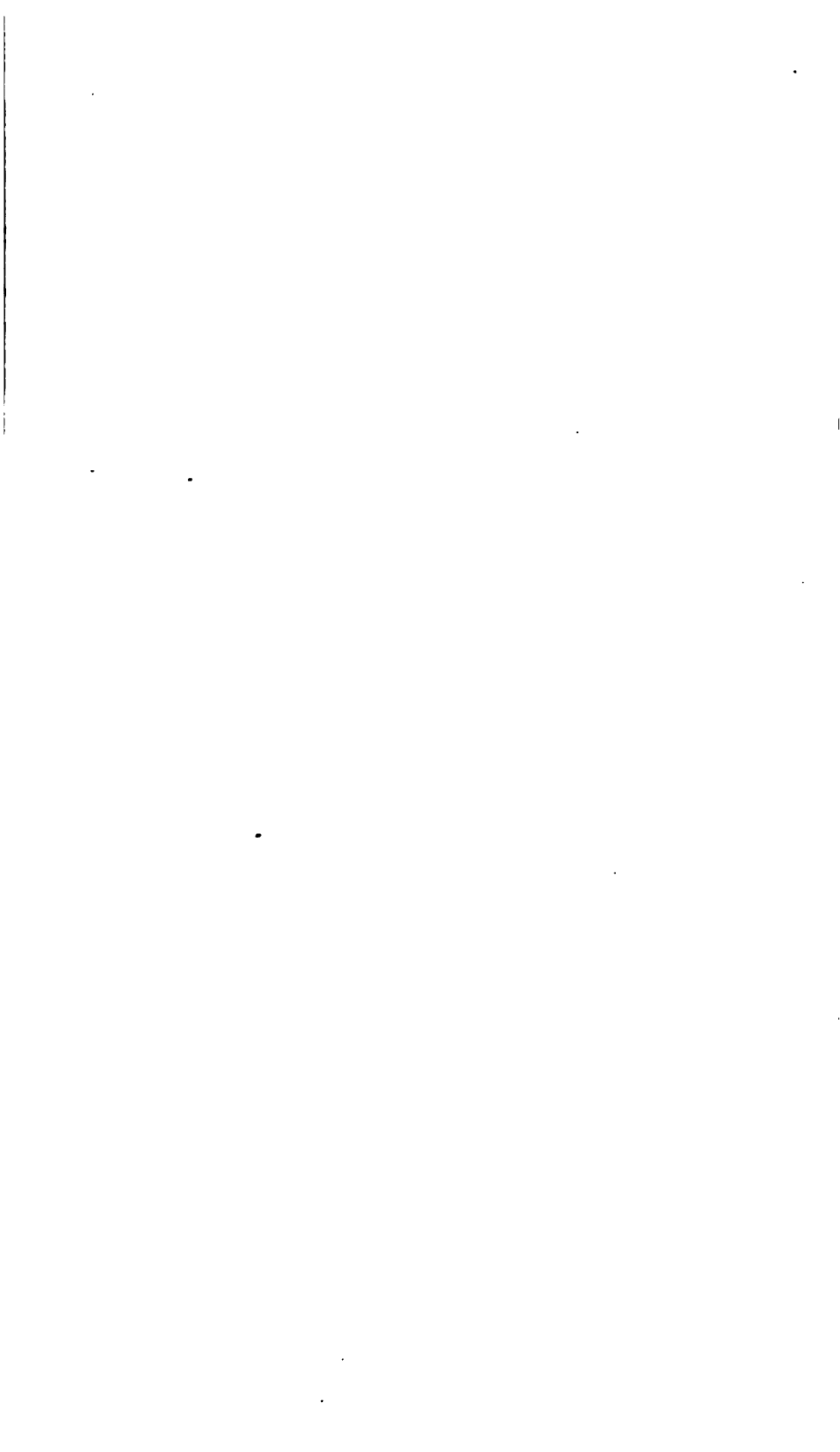
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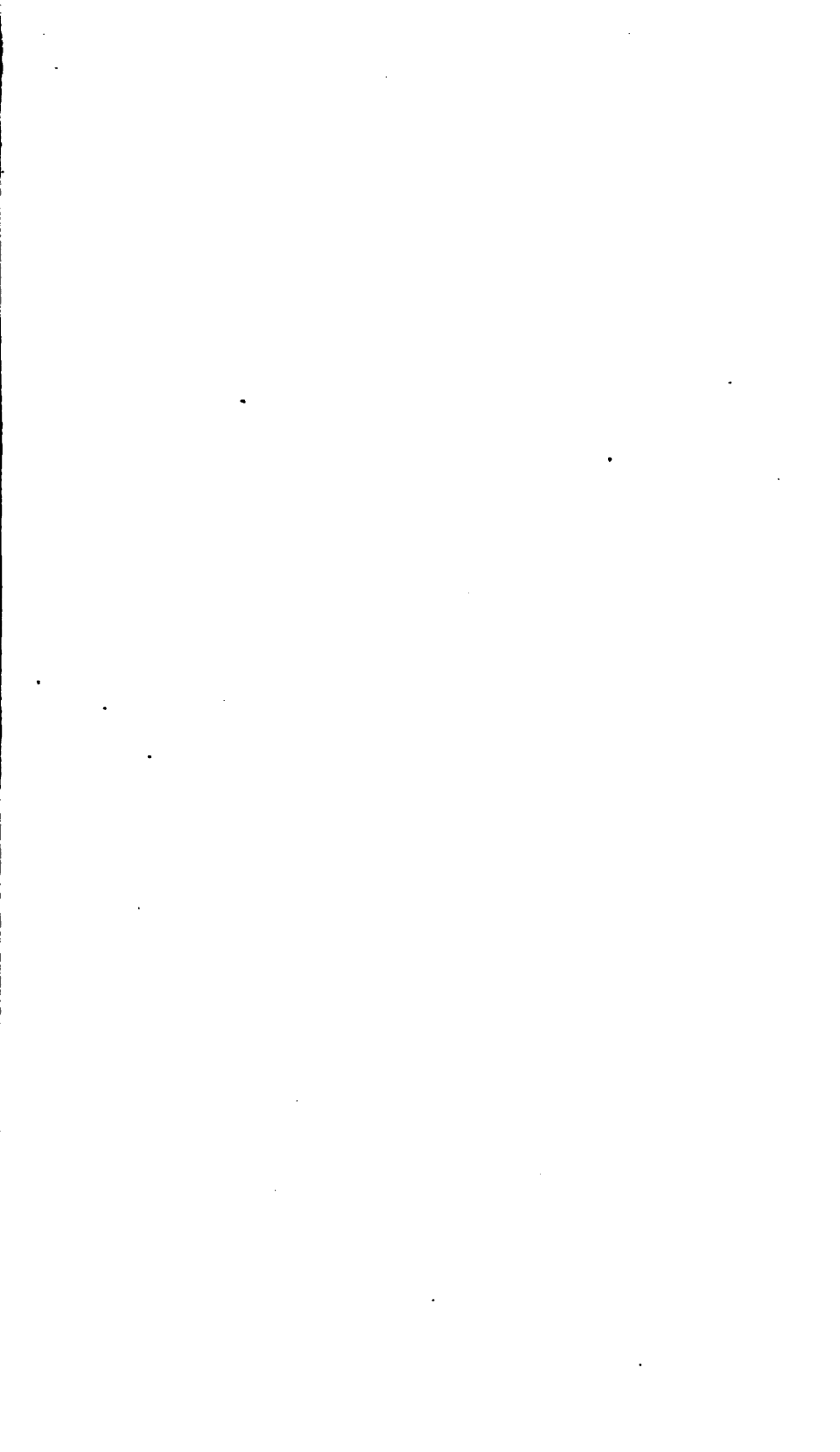
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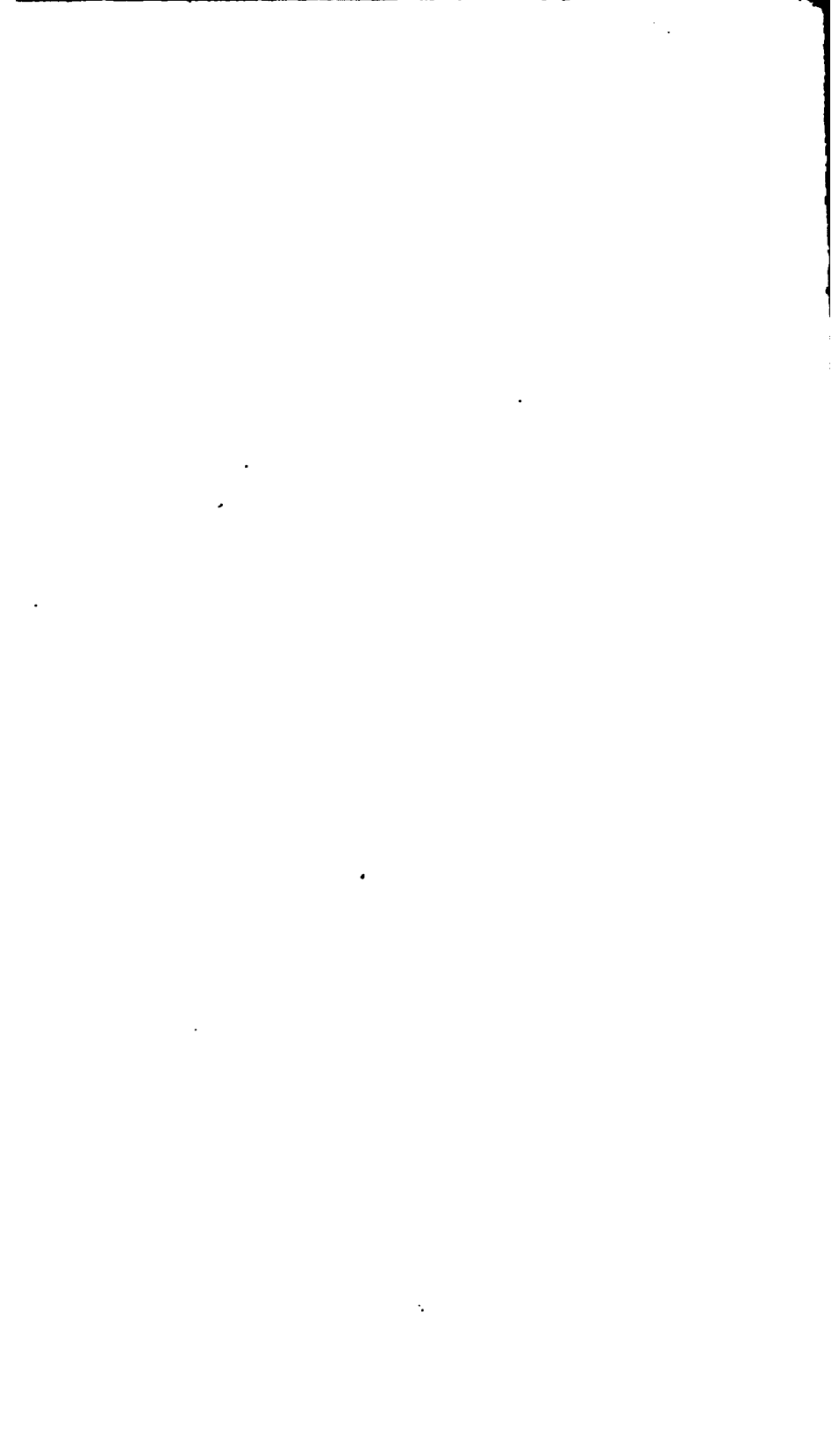




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1843







LAW REPORTS
OF
PATENT CASES.

BY
WILLIAM CARPMAEL, ESQ.,
MEMBER OF THE HONOURABLE SOCIETY OF LINCOLN'S INN,
MEMBER OF THE INSTITUTION OF CIVIL
ENGINEERS, ETC., ETC.

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WHEN this work was commenced, it was intended that the whole of the Patent Cases, up to the passing of Lord Brougham's Act, should have been published in one volume; that Act having materially altered the pleadings, and other points of practice, it was considered a New Series of Reports might with propriety have been commenced with cases since that Act; but it was found that such a course of proceeding would have caused the present volume to be of an inconvenient size; for which reason the original intention has been abandoned, and the present is now made the first volume of a general series of Reports.

LINCOLN'S INN,
Dec., 1846.



NAMES OF CASES,

WITH A

SHORT ABSTRACT OF THE NATURE OF THE INVENTION,
AND OF THE POINTS DECIDED.

Names of Cases.	Reported Page	Where reported in other works.
A		
Allen, Darcy, v.	26	
Amatt et al, Cartwright, v.	173	
Arkwright v. Nightingale	38	Dav. P. C., 37; Webs. R., 60.
<p>The patent was for machinery for preparing and spinning cotton and other fibrous matter: it was objected that the specification was not clear, and could not be acted on, neither could any person ascertain what the invention was.</p> <p>It was held that the law had established the right of patents for new inventions, and that that law was extremely wise and just.</p> <p>It was also held, that one of the conditions of the patent was, that a specification should be enrolled, stating the nature of the invention. The object of which was that after the term was expired, the public should have the benefit of the invention; when that condition was not complied with, the patentee forfeited all the benefits he would otherwise derive from the great seal.</p> <p>It was argued for the defendant that the patentee having failed to establish the validity of the patent in a previous case, the world at large considered he had abandoned the patent, and therefore the defendant did not infringe. It was held that if the question was what damages Mr. Arkwright should receive, then it would be proper to admit evidence to show to what extent persons had acted on the faith of the former verdict.</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>There are many objections that may be taken to a patent, but the only one in this case was, that the specification was not so intelligible that those who were conversant with the subject were capable of understanding it. The clearness of the specification must be according to the subject-matter of it. It is addressed to persons in the profession having skill in the subject, not to men of ignorance, and if it is understood by those whose business leads them to be conversant with such subjects, it is intelligible.—<i>Per Lord Loughborough.</i></p>		
Arkwright, <i>The King, v.</i>	53	
Aston, <i>Sanders, v.</i>	510	
B		
Bainbridge <i>v. Wigley</i>	270	18 Rep. Arts, 2d S., 127.
<p>The patentee claimed to have invented such improvement of flageolets as to obtain new notes; and it turned out that he had obtained by his improvement, only one new note. It was held, that the grounds on which the patent was granted having failed, the consideration on which His Majesty was induced to grant this patent not being truly stated, the patent was void.—<i>Per Lord Ellenborough.</i></p>		
Baker's Patent	14	
<p>Letters patent granted to him for the manufacture of smalt, saved by the Statute of Monopolies.</p>		
Barnsley, <i>Russell, v.</i>	563	
Beaumont et als, <i>v. George</i>	294	27 Rep. Arts, 2d S., 252.
<p>The patents in this case had been taken for refining sugar by the use of charcoal, and the proprietors of these patents had applied for, and obtained, an injunction to restrain the defendant from using the inventions, which on application was dissolved, the defendant having sworn that he used the process three months before the date of the patent. It was held that great inconvenience to his Majesty's subjects must arise from the imperfect nature or doubtful interpretation of the rights of patentees. The question was simply, whether the patents were good or not, and that was clearly</p>		

Names of Cases.	Reported Page	Where reported in other works.
a question of law. If they should be determined good, damages might be recovered to the extent of their violation, not only by the patentees, but by the persons who had obtained licenses from them.— <i>Per Lord Eldon.</i>		
Beck, <i>ex parte</i>	37	1 Bro. C. C., 578; Webs. R., 430.
The sealing of a patent, after it arrived at the Great Seal, was delayed by a Caveat. The patentee imagined, without looking at the grant, that it was dated on the day the Caveat was dismissed, but found it dated on the day the Privy Seal Bill was left in the Court of Chancery, and he applied to have the date altered. It was held that it was not in the power of the Keeper of the Great Seal to take the seal off a patent.— <i>Per Lord Thurlow.</i>		
Beeston v. Ford	491	9 Rep. Arts, N.S., 57.
The patent was granted for improvements in ships' cabooses, and the patentee had enjoyed the exclusive use of the invention for seven years. The Vice-Chancellor had dissolved an injunction obtained <i>ex parte</i> . On an appeal, the judgment of the Vice-Chancellor was reversed, although his Lordship entertained great doubt as to the validity of the patent; but on the previous authorities, a patentee having had so long an exclusive right, ought not to have that right disturbed.— <i>Per Lord Lyndhurst.</i>		
Benyon, Campion, v.	418	
Beverley, Crossley, v.	480	
Bloxam v. Else	434	6 B. & C., 169; 9 Dow. and Ry., 215; 1 C. and P., 558; 1 Ry. and M., 187.
_____	437	
_____	440	
The patent was for making paper by applying a continuous sieve surface of wire cloth in place of the square hand-sieves before used. It was objected, that the specification was insufficient. It was ruled that a patentee was not bound to describe his invention wholly by words; but, if by drawing, aided by description, the invention was rendered clear to a skilful mechanic, the patent would be supported.— <i>Per Lord Chief Justice Abbott.</i>		
The patent had come into the hands		

Names of Cases.	Reported Page	Where reported in other works.
<p>of assignees under a bankruptcy. It was contended, that the assignees were trustees for all the creditors, who were numerous, and exceeded the number of five allowed by the proviso in the patent, and, therefore, the patent was bad. Held that the clause only applied to the acts of the parties, and not to acts of law.—<i>Per Lord Chief Justice Abbott.</i></p> <p>The assignees represent the proprietors of the patent, and not the creditors.—<i>Per Mr. Justice Bayley and Mr. Justice Holroyd.</i></p> <p>The patentee having in his specification represented that paper of any width might be made, and that not being the fact, the patent was held to be bad.</p>		
Boot, Hall, v.	423	
Booth, <i>in re</i>	172	
<p>A patent was granted containing the usual proviso, that a specification should be enrolled within four months: on application to the Lord Chancellor, the patentee was allowed to enrol a sealed specification.</p>		
Boulton and Watt v. Bull	117	2 H. Bl., 463; Dav. P. C., 162; 3 Ves. Jun., 140.
<p>The patent was granted for a method of lessening the consumption of steam and fuel in fire-engines. The invention consisted in condensing in a separate vessel, in place of condensing in the working cylinder; also, in clothing the working cylinder, so as to keep it hot; also, for using an air-pump for removing the uncondensable vapours; there were also other minor points. It was contended, that the patent was for a principle, and not a manufacture; and if it was for a method, then a method could not be protected by a patent. Held, that it was for an engine or a machine. A principle is the first ground and rule for arts and sciences; or, in other words, the elements and rudiments of them. A patent must be for some new production from those elements, and not for the elements themselves. A principle reduced to practice can only mean a practice founded on principle, and that practice is the thing done; or, in other words, the manufacture which is invented. Whether the manufacture be with or without a principle produced</p>	155	

NAMES OF CASES.

v

Names of Cases.	Reported Page	Where reported in other works.
<p>by accident or by art, is immaterial. Verbal criticisms ought not to prevail. A patent may be sustained for an addition or improvement to an old engine or machine.</p> <p>In this case what is a manufacture was very extensively considered.</p>		
<p>Bovill et als, v. Moore</p>	<p>320</p> <p>348</p>	<p>2 Marsh, 211 ; Dav. P. C., 361.</p>
<p>Before the granting of this patent, the lace-machines in use worked in such manner, that a series of threads on bobbins placed in their carriages, were caused progressively to move from selvage to selvage of the fabric, and in doing so they were each caused to pass around and twist with each succeeding warp-thread, the warp-threads constituting the longitudinal threads of the fabrics of the lace, bobbin or carriage-threads, forming the diagonal threads. By the present patent, the manner of working the thread was reversed, the warp-threads became the diagonal threads, and the bobbin or carriage-threads constituted the straight-down threads of the fabrics of lace. The specification simply described the machinery, without stating what was new and what was old. It was held that if a patentee is acquainted with better means of carrying out his invention than he discloses in his specification, the patent is bad ; but, if the improvement be discovered after the specification, the patentee may apply that improvement, and his patent will not be affected. And where a patentee claims by his specification more than is new, or more than is the invention of the patentee, the patent will be bad. If the invention by the patentee be only an improvement, then the setting out the whole machine as the invention claimed, would render the patent void.</p>		
<p>Bowman v. Taylor et al</p>	<p>654</p>	<p>2 A. and E., 295 ; 4 N. & M., 264.</p>
<p>In this case, the defendants had taken a license under a patent granted to the plaintiff. The license recited that the plaintiff "had invented" the improvements for which the letters patent were granted. It was held on demurrer, that the defendants could not plead, in an action to recover patent dues, under the license, that the invention was not new ;</p>		

Names of Cases.	Reported Page	Where reported in other works.
<i>Lord Chief Justice Dallas, Mr. Justice Park, Mr. Justice Burrough, and Mr. Justice Richardson.</i>		
<p>Cartwright v. Amatt et al</p> <p>In an assignment of a patent from A, to B, it was covenanted that the property should remain vested in A, till the termination of a certain suit. In an action brought by B, in a subsequent case, it was objected that an assignment should have been made of the patent after the suit. It was ruled, that the patent became vested in B, on the termination of the suit.</p>	173	2 B. and P., 43; Dav. P. C., 240.
<p>Cochrane (Lord) v. Smethurst</p> <p>A patent was granted for "A method or methods of more completely lighting cities, towns, and villages." The invention, described, consisted of various improvements of street lamps. Held, that the patent was too large and uncertain; it ought to have been taken for improvement of the old street-lamps.—<i>Per Mr. Justice Le Blanc.</i></p>	311	1 Stark, 205; Dav. P. C., 354.
<p>Cochrane and Galloway v. Braithwaite et al</p>	492	16 Rep. Arts, N. S., 116.
<p>.</p> <p>A patent was granted in 1818 for steam-boiler furnaces. An application was made in 1830 for an injunction to restrain the defendants from using the invention. It appeared in evidence, that the plaintiffs had only within six months applied their invention to any steam-boiler; and the defendants, who also had a patent, had applied their mode of construction for eighteen months. Under these circumstances, the injunction was refused, the costs being reserved till after a trial at law.—<i>Per Lord Lyndhurst.</i></p> <p>In the trial at law, it was ruled by <i>Lord Tenterden</i> that the plaintiffs must be non-suited, as the mode of accomplishing the result by the defendants, was different from that of the plaintiffs. The Court, on an application, directed a new trial, thinking that his Lordship should not have so ruled: it was a question for a jury, whether a patent was infringed. In the second trial, <i>Lord Denman</i> stated to the jury, that the specification did not confine the invention</p>	493	

Names of Cases.	Reported Page	Where reported in other works.
to the use of a valve; but any known means of resisting the passage of the air from the furnace through the flues would fall within the claim of the patent.		
Collinge v. Bowman	660	3 Rep. Arts, N. S., 104; Webs. R., 294 n.
This was an application to a Court of Equity to restrain the defendant proceeding at law to recover patent-rents under a license to use an invention. After the license, the defendant agreed verbally not to ask his patent-rents till the patent had been tried at law. The bill charged fraud in granting the license, which was denied in the answer. The Court refused to interfere.		
Congreve, Walker, v.	356	
Cowley et als, Russell, v.	531	
Crompton v. Ibbotson	458	Dan. and Lloyd, 33.
The patent was taken for a means of drying paper by steam cylinders, and the improvement consisted in conducting the newly-made paper by a woven fabric to the steam cylinders. The specification having described the nature of the fabric preferred, which consisted of a linen-warp and woollen-weft, also stated that the " <i>cloth may be made of any suitable material</i> ." The evidence shewed, that before the specification, the patentee had tried several fabrics for the purpose, but none had answered except the one made of linen and wool. Held, that the patent was bad, the specification misleading the public.— <i>Per Mr. Justice Bayley</i> .	460	
If a person happened not to have a cloth made of linen-warp and woollen-weft, he would have tried some other, and have failed. The patentee has not fully and fairly exposed all he knew.— <i>Per Lord Tenterden</i> .		
A person drawing a specification, knowing that a certain material will not answer, is bound so to word the specification, as to prevent parties trying experiments.— <i>Per Mr. Justice Bayley</i> .		
Crossley v. Beverley	480	3 C. and P., 513; M. and M., 283; Webs. R., 106,
.	487	

Names of Cases.	Reported Page	Where reported in other works.
Crossley v. Beverley	488	112, 119; 9 B. and C., 63; 1 Russ. and My., 166; 8 Rep. Arts, N. S., 105.
<p>The patent was taken for improved gas apparatus, and various parts of the apparatus used in manufacturing gas and transmitting it to the consumer, were described. A very valuable part of the invention consisted of an apparatus for measuring gas, called a "gas-meter," and the peculiarity of the invention consisted in the employment of a wheel formed with curved vanes, which were immersed in water; the gas was introduced under the vanes successively, through the hollow axis of the wheel, which caused the vanes to rise above the water, the gas filling the compartments formed between the curved vanes and the water's surface. Subsequently another person made material improvements in the gas-meter, by dispensing with the hollow axis, and simply using a fixed bent pipe for introducing the gas, no patent was taken for the improvements, and the plaintiff afterwards worked according to the improvements thus made by another. The defendant was proceeded against for infringing the gas-meter, and several objections were taken to the patent and specification; one being, that the invention in its original form was not useful, and to make it useful the invention of another person was brought to bear. It was objected, that the part of the patent which related to making gas was not applicable when using oil, and on the other hand, it was shown, that oil was only then just being brought into use for making gas. It was ruled, that "other substances," coupled with the words "pit-coal," mean other substances — <i>ejusdem generis</i>. In a specification, a person must be considered to be speaking of things as they were known at the time; it is not to be expected that he should have the gift of prophesy.—<i>Per Lord Tenterden</i>.</p> <p>A specification for a gas apparatus not mentioning a condenser, does not exclude its use, if a workman would know that its use is necessary. A patentee improving his invention after the date of the patent, and before enrolling his specification, is required to introduce the improvements. A patentee must describe his invention according to the best information at the time of the specification; the six months are allowed to mature the invention.—<i>Per</i></p>		

Names of Cases.	Reported Page	Where reported in other works.
<i>Lord Tenterden, Mr Justice Bayley, Mr. Justice Littledale, and Mr. Justice Parke.</i>		
Cutler, The King, <i>v.</i>	351	
D		
Daniell, The King, <i>v.</i>	453	
Darcy <i>v.</i> Allen A grant from the Crown of the sole importation from abroad of any article, is void.	26	Noy. R., 173; 11 Co. R., 84 b; Moor, 671.
Davis, Lewis et al, <i>v.</i>	471	
De la Rue et al, Sturtz, <i>v.</i>	463	
Derosne <i>v.</i> Fairrie et al The patent was taken for filtering syrups of sugar through animal and other charcoal: the same description of filter having been long before used for clarifying almost every description of liquid. For this invention the patent was supported, but, amongst other charcoal, that of schistus was to be used, no directions being given how to get rid of the iron usually found in all classes of schistus in this country. The Court, on this point, directed a new trial, thinking his Lordship at the trial should have nonsuited the plaintiff. The patent was afterwards amended with respect to the schistus, and its validity was not again questioned. The Privy Council extended the grant for a further term.	664	1. M. and R., 457; 5 Tyr., 393; 2 C. M. & R., 476; Webs. R., 154, 158; 1 Gale, 109; 4 Rep. Arts, N. S., 77.
Dickenson, Smith, <i>v.</i>	238	
Digby, Sir K., <i>in re</i> In a grant from the Crown, "the County of Kank" was inserted by error for "the County of Kent." The error was amended by the Lord Keeper, by direction of His Majesty.	27	Beame's Orders, 66.
Dollond's Case The patent was taken for a new method of making the object-glasses of refracting telescopes; and the invention consisted of making each object-glass of two parts, each being of a medium of different refractive qualities, whereby the error of one was corrected by the error of the other. It was proved that Dr. Hall had made use of object-glasses	28	H. Bl., 470 & 487; Webs. R., 43; Dav. P. C., 170.

Names of Cases.	Reported Page	Where reported in other works.
precisely similar, before the date of the patent, in his own observatory. It was held, that this was no publication or public use, under the Statute.		
Dudley's (Lord) Patent This patent was granted for making iron by using pit-coal as a fuel in place of wood, and was saved by the Statute of Monopolies.	15	
E		
Edgeberry v. Stephens The patent was granted, as communicated from a foreigner. It was objected that the grantee was not the first and true inventor within the Statute. It was held, that a thing may be practised beyond the sea before the patent, but if it be new here, the patent is good. Whether an invention be learned by travel or by study, it is the same thing.	35	2 Salk., 447; Holt, 475; Comb., 84; Dav. P. C., 36; Webs. R., 35.
Else, Bloxam, v.	434	
— The King, v.	103	
F		
Fairrie et al, Derosne, v.	664	
Felton v. Greaves et al A patent was granted for "A machine for an expeditious and correct mode of giving a fine edge to knives, razors, scissors, and other cutting instruments." The specification described the machine arranged for sharpening knives, and other cutting instruments, where the sharpening took place on both sides, but gave no instructions as to how scissors were to be sharpened; and the machine, as shown, would not sharpen scissors; nor did the specification show how a fine edge was to be obtained; only files being shewn and described, which would not give a fine edge to razors, &c. It was held, that the specification was insufficient, and the patent bad.	488	3 C. and P., 611.
Ford, Beeston, v.	491	
Forsyth v. Riviere The patent was taken for discharging fire-arms by the use of detonating mix-	401	Chit. Prerog. Cr., 182.

Names of Cases.	Reported Page	Where reported in other works.
<p>tures, in place of gunpowder. The specification described the detonating matter preferred, and also explained how the locks were to be constructed in order to discharge the mixture, so as to ignite the charges in the fire-arms.</p> <p>The specification disclaimed any novelty in the chemical preparations of detonating mixtures, and the patentee confined his claim to "the use and application thereof to the purposes of artillery and fire-arms," in the manner described. It was contended that it was not a manufacture within the Statute. <i>Lord Chief Justice Abbott</i> directed the jury that, if the invention was new, it was the proper subject for a patent; and if several simultaneously discovered the same thing, the party first communicating it to the public, if under a patent, is entitled to the benefit of it. It is not necessary that the patentee should be the only inventor; it is sufficient, if the patentee be the first to introduce the invention.</p>		
<p><i>Fox, ex parte</i></p> <p>A patent arrived at the Great Seal, and was opposed, on the ground that it was supposed, by a previous patentee, that the invention would interfere with a previous grant. Held, that that was not sufficient reason for stopping a patent. If the petitioners had invented certain improvements upon an engine for which a patent had been granted, and those improvements could not be used without the original engine, at the end of the first grant, the petitioners could make use of their patent. They would have no right to make use of the others' invention till that time.—<i>Per Lord Eldon.</i></p>	274	1 V. and B., 67; Webb R., 431 n.
<p><i>Fussell, The King, v.</i></p>	449	
G		
<p><i>George, Beaumont et als, v.</i></p>	294	
<p><i>Gray, Cameron, v.</i></p>	173	
<p><i>Greaves et al, Felton, v.</i></p>	488	
<p><i>Grimshaw, Huddart, v.</i></p>	200	

Names of Cases.	Reported Page	Where reported in other works.
H		
Hadden, The King, <i>v.</i>	447	
Hague, Hullett, <i>v.</i>	501	
Hall <i>v.</i> Boot	423	Webs. R., 100.
<p>The invention under this patent consisted of causing lace to pass through a flame of gas, in order to singe off the projecting fibres. It was shewn and admitted, that other flames had been used for like purposes; and it was objected, that that being the state of the manufacture at the date of the patent, the invention described was not a new manufacture, such as could be protected by patent. It was held, that no man could tell that gas would do for the purpose till he tried; and that a man who tried and succeeded in so improving a manufacture, was entitled to a patent.</p>		
Hardcastle, Bramah, <i>v.</i>	168	
———, Haworth, <i>v.</i>	597	
Hare <i>v.</i> Harford et al.	180	Webs. R., 291 <i>n.</i> ; 3 Rep. Arts, 2d S., 232.
<p>The invention proposed to be secured by this patent consisted of a mode of boiling worts, so as to preserve the aroma or essential oil of the hop. The invention, on the trial, was shown to be old, and the patent was declared void.</p>		
Hare, Taylor, <i>v.</i>	243	
Harford et al, Hare, <i>v.</i>	180	
Harmer <i>v.</i> Playne	246	14 Ves. Jun., 130; 11 East, 101; Dav. P. C., 311.
———	260	
<p>The patent in this case was granted for improvements in machinery, secured by previous letters patent. It was objected, that the specification did not show what the new parts claimed were, but described the machinery complete. It was contended, on application to dissolve an injunction, that the second specification was bad; it ought either to have shown the improvements separately, or have stated what the improvements were. It was ruled, that the public having permitted a reasonably</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>long and undisputed possession under colour of the patent, the Court has thought upon the fact of that possession proved against the public that there is less inconvenience in granting the injunction until the legal question can be tried, than in dissolving it, at the hazard that the grant of the Crown may, in the result, prove to have been valid. The trial being had, it was determined that the patentee had sufficiently described his invention. The public could ascertain by comparing the old specification and the new specification, what was claimed under the new patent.</p>		
<p>Hawkes et al, Brunton, v.</p>	<p>405</p>	
<p>Haworth v. Hardcastle and others</p>	<p>597 607</p>	<p>1 Bing. N.C., 189; 4 M. and Scott, 720.</p>
<p>In this case the patent was for machinery for drying fabrics, and consisted of a new combination of parts, all the parts being old. The machinery was so arranged that it would cause the fabrics previously wound on to a roller, to be unwound therefrom at intervals, so as to cause the fabric to hang in loops over a series of rails, and then to take the fabrics up when dry. It was objected that the defendant did not infringe, because he, at a sale of the patentee's effects under bankruptcy, purchased several of the parts, and added other parts, which were different from those described by the patent, and omitted to use other parts described under the patent.</p> <p>The jury at the trial found that the invention was a new combination, and useful for hanging out to dry, but not useful in some cases for taking up the fabrics when dry. They also found that the patent was infringed. The Court ruled, that the finding of the jury sufficiently supported the patent. It was not necessary that the invention should be useful in every case.</p>		
<p>Hayne et al v. Maltby</p> <p>The defendant worked under license of the plaintiffs in using a patented invention, and the declaration alleged as a breach, that the defendant was using more machines than were licensed. The defendant pleaded, amongst other things, that the patentee was not the first in-</p>	<p>113</p>	<p>3 T. R., 438; Dav. P. C., 156.</p>

Names of Cases.	Reported Page	Where reported in other works.
H		
Hadden, The King, <i>v.</i>	447	
Hague, Hullett, <i>v.</i>	501	
Hall <i>v.</i> Boot	423	Webs. R., 100.
<p>The invention under this patent consisted of causing lace to pass through a flame of gas, in order to singe off the projecting fibres. It was shewn and admitted, that other flames had been used for like purposes; and it was objected, that that being the state of the manufacture at the date of the patent, the invention described was not a new manufacture, such as could be protected by patent. It was held, that no man could tell that gas would do for the purpose till he tried; and that a man who tried and succeeded in so improving a manufacture, was entitled to a patent.</p>		
Hardcastle, Bramah, <i>v.</i>	168	
———, Haworth, <i>v.</i>	597	
Hare <i>v.</i> Harford et al.	180	Webs. R., 291 <i>n.</i> ; 3 Rep. Arts, 2d S., 232.
<p>The invention proposed to be secured by this patent consisted of a mode of boiling worts, so as to preserve the aroma or essential oil of the hop. The invention, on the trial, was shown to be old, and the patent was declared void.</p>		
Hare, Taylor, <i>v.</i>	243	
Harford et al, Hare, <i>v.</i>	180	
Harmer <i>v.</i> Playne	246	14 Ves. Jun., 130; 11 East, 101; Dav. P. C., 311.
———	260	
<p>The patent in this case was granted for improvements in machinery, secured by previous letters patent. It was objected, that the specification did not show what the new parts claimed were, but described the machinery complete. It was contended, on application to dissolve an injunction, that the second specification was bad; it ought either to have shown the improvements separately, or have stated what the improvements were. It was ruled, that the public having permitted a reasonably</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>long and undisputed possession under colour of the patent, the Court has thought upon the fact of that possession proved against the public that there is less inconvenience in granting the injunction until the legal question can be tried, than in dissolving it, at the hazard that the grant of the Crown may, in the result, prove to have been valid. The trial being had, it was determined that the patentee had sufficiently described his invention. The public could ascertain by comparing the old specification and the new specification, what was claimed under the new patent.</p>		
Hawkes et al, Brunton, v.	405	
Haworth v. Hardcastle and others .	597	1 Bing. N. C., 189;
		4 M. and Scott,
	607	720.
<p>In this case the patent was for machinery for drying fabrics, and consisted of a new combination of parts, all the parts being old. The machinery was so arranged that it would cause the fabrics previously wound on to a roller, to be unwound therefrom at intervals, so as to cause the fabric to hang in loops over a series of rails, and then to take the fabrics up when dry. It was objected that the defendant did not infringe, because he, at a sale of the patentee's effects under bankruptcy, purchased several of the parts, and added other parts, which were different from those described by the patent, and omitted to use other parts described under the patent.</p>		
<p>The jury at the trial found that the invention was a new combination, and useful for hanging out to dry, but not useful in some cases for taking up the fabrics when dry. They also found that the patent was infringed. The Court ruled, that the finding of the jury sufficiently supported the patent. It was not necessary that the invention should be useful in every case.</p>		
Hayne et al v. Malthy	113	3 T. R., 438; Dav.
<p>The defendant worked under license of the plaintiffs in using a patented invention, and the declaration alleged as a breach, that the defendant was using more machines than were licensed. The defendant pleaded, amongst other things, that the patentee was not the first in-</p>		P. C., 156.

Names of Cases.	Reported Page	Where reported in other works.
<p>ventor, and that he had not enrolled a specification. To that the plaintiff demurred, on the ground that the defendant was estopped by having a license. The Court held, under the form of license, the pleas were good.</p>		
<p>Hesse v. Stephenson</p> <p>The questions raised in this case turned on the construction of an Act of Parliament, and an assignment made by the patentee.</p>	186	3 B. and P., 565; Dav. P. C., 244.
<p>Hicks v. Raincock</p> <p>A bill was filed by the plaintiff, to restrain the defendant from infringing a patent. The defendant demurred, on the ground that the validity of the patent had not been established in a Court of Law. The demurrer was over-ruled.</p>	37	2 Dick, 647.
<p>Hill v. Thompson et al</p>	369	3 Mer., 622; Holt, 636; 2 B. Mo., 424; 8 Taunt., 375; Webs. R., 229, 39.
<p>_____</p>	375	
<p>_____</p>	377	
<p>_____</p>	381	
<p>The patent in this case was taken for manufacturing iron by employing what are called slags or cinders, which are materials obtained from the forge-hammers, also from the refinery-furnace, and other processes of treating iron. And as these materials are too rich in iron, they were to be mixed with mine-rubbish or material, so as to produce a mixture to contain about forty per cent. of iron, and then lime was to be used in the manufacture, to prevent what is called "<i>cold short</i>." It was shown that before the patent, the cinders or slags had before been used in manufacturing iron, and that lime had been used in the manufacture of iron where cinder was not used. But it did not appear that the invention, which it was contended by the plaintiff alone was claimed in the specification, had before been practically used.</p>		
<p>It was ruled, that the specification did not confine the invention to the making a mixture of the cinder with mine-rubbish in a blast-furnace, so as to offer about forty per cent. of iron, and then using lime in the puddling-furnace, as well as in the blast-furnace, to make malleable iron, to prevent "<i>cold short</i>"</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>in malleable iron so manufactured, but the patent claimed the using of lime generally to all iron.</p> <p>It was also ruled, that the Court of Chancery, when an exclusive possession has been had for some duration, will not interpose its injunction, without putting the party previously to establish the validity of the patent in a Court of Law. But where the patent is but of yesterday, and it is attempted to be shewn that there is no valid patent, the Court will not act by injunction till the validity of the patent has been ascertained.—<i>Per Lord Eldon.</i></p> <p>Not only must an invention be novel and useful, and the specification intelligible, but also the specification must not attempt to cover more than that which is both novel and useful; and if a patentee seeks by his specification any more than he is strictly entitled to, his patent is thereby rendered ineffectual. There may be a valid patent for a new combination of materials previously in use for the same purpose, or for a new method of applying such materials. But in order to its being effectual, the specification must clearly express that it is in respect to such new combination or application, and of that only, and not lay claim to the merit of original invention in the use of the materials. If there be a patent both for a machine and for an improvement in the use of it, and it cannot be supported for the machine, although there might be an improvement, it would be good for nothing on account of its attempting to cover too much.—<i>Per Lord Eldon.</i></p> <p>The utility of the discovery, the intelligibility of the description, &c., are all facts for a jury. But whether or not the patent is defective in attempting to cover too much, is a question of law.—<i>Per Lord Eldon.</i></p> <p>A slight departure from the specification for the purpose of evasion only, would, of course, be a fraud upon the patent, and, therefore, the question will be, whether the mode of working by the defendants has or has not been essentially or substantially different.</p> <p>The publication of a process in a book before the date of a patent, will negative the novelty of the invention claimed under the patent.</p> <p>If any part of the alleged discovery, being a material part, fail, the discovery</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>in its entirety forming one entire consideration, the patent is altogether void.—<i>Per Mr. Justice Dallas.</i></p>		
<p>Hornblower et al. v. Boulton and Watt</p> <p>This was a writ of error. Amongst other causes of error assigned, was, that Watt's invention was not a manufacture within the Statute. It was held, that no technical words are necessary to explain the subject of a patent. The question is, whether, by looking at the patent explained as it is by the specification, it is a manufacture.—<i>Per Lord Chief Justice Kenyon.</i></p> <p>If a patent could not be granted for an addition, it would deprive the public of one of the best benefits of the Statute of James I.</p> <p>I am inclined to think a patent cannot be granted for a mere principle.—<i>Per Mr. Justice Ashurst.</i></p> <p>"Engine" and "method" mean the same thing, and may be the subject of a patent. "Method," properly speaking, is only placing several things, and performing several operations in the most convenient order; but it may signify a contrivance, or device, or an engine; and may answer the word "method;" so principle may mean a mere elementary truth, but it may also mean constituent parts.—<i>Per Mr Justice Lawrence.</i></p>	156	8 T. R., 95; Dav. P. C., 221.
<p>Huddart v. Grimshawe</p> <p>This patent was taken for improving the manufacture of ropes, and the invention introduced, what may be called, a new principle in the structure of the strands of a rope. Before this patent, it was usual to take a bundle of yarns, all the yarns being of the same length, and twist them into a strand. By this invention it was proposed to make the strands of a rope by combining yarns of different lengths, the centre yarn being of the length of the finished strand, each yarn in the ring of yarns around the central one being longer than the first, and each yarn of the next ring of yarns longer than the previous ones; by which arrangement of the successive layers or rings of yarns, much stronger strands for a given length and weight of yarn could be produced: ropes and cables have, ever since been made according to this invention. The infringement was proved by taking to pieces part of a rope sold by the defendants.</p>	200	Dav. P. C., 265; Webs. R., 85.

Names of Cases.	Reported Page	Where reported in other works.
<p>It was ruled, that there are common elementary materials to work with in machinery; but it is the adoption of those materials to the execution of any particular purpose that constitutes the invention; and if the application be new, if the combination in its nature be essentially new, if it be productive of a new end, and beneficial to the public, it is that species of invention that may be secured by patent.</p> <p>Any person looking at a specification, who is skilled in the subject, ought to be able to accomplish the end; and, if in stating the means necessary to the production of that end, the patentee oversteps the right and appropriates more than his own, he cannot avail himself of the benefit of the patent.—<i>Per Lord Ellenborough.</i></p> <p>Hullett v. Hague</p> <p>This patent was taken by a Mr. Kneller, to secure an invention for apparatus for applying streams of air into the syrups of sugar, and other fluids, so as to cause them, when heated, to evaporate more quickly and at less temperatures, than when simply evaporating in open pans or vessels by heat.</p> <p>Many years before this patent, it had been proposed to use streams of air for like purposes, but the manner of dividing the air into numerous streams was, by having a perforated plate or a perforated pipe at the bottom of the evaporating vessel. The apparatus under the patent consisted in having pipes above the liquid, from which descended numerous small tubes, so as to conduct the air from the main pipes below the liquid, by which the pressure of the various streams would be equal. It was objected to the patent, that the invention was not new, and that it was not, by the specification, confined to the peculiar apparatus shewn, but included all and every mode of introducing streams of air into fluids to aid in evaporating the same. It was ruled, that the specification claimed only what the patent was taken for—the apparatus for applying the principle; and that it was not taken out for the principle of applying streams of air.</p> <p>I</p> <p>Ibbotson, Crompton, v.</p> <p>c 2</p>	<p>501</p> <p>458</p>	<p>2 B. & Ad., 370.</p>

Names of Cases.	Reported Page	Where reported in other works.
James et al., Newbery, <i>v.</i>	367	
Johnson, Liardet, <i>v.</i>	35	
Jones <i>v.</i> Pearce	524	Webs. R., 122; 14 Rep. Arts, N. S., 106.
<p>In this case the patent was taken by the plaintiff for a mode of making wheels, by which the weight on the nave, in place of being supported by the spoke for the time being below the nave, it was suspended from the part of the felloe, or ring of the wheel, which was for the time being above the nave.</p> <p>The defendant had also taken a patent for obtaining a similar result, differing, however, in some of the details by which the same end was accomplished. It was objected, that the patent was old, that Mr. Strutt, of Derby, had made and used wheels of a like kind, and used them publicly for some time; but when they broke down he abandoned them.</p> <p>Mr. Justice Patteson directed the jury as follows:—If, on the other hand, you are of opinion that Mr. Strutt's was an experiment, and that he found it did not answer, and ceased to use it altogether, and abandoned it as useless, and nobody else followed it up, and that the plaintiff's invention, which came afterwards, was his own invention, and remedied the defects, if I may so say, although he knew nothing of Mr. Strutt's wheel, there is no reason for saying the patent is not good. It depends entirely upon what is your opinion upon the evidence.</p>		
Jones <i>v.</i> Ripley et al.	611	2 Rep. Arts, N. S., 150.
<p>The patent was taken for "certain improvements in machinery and instruments for dressing and cleansing woollen, cotton, linen, silk, and other cloths, or fabrics, and which improvements are also applicable to the dressing and cleansing of machinery of various descriptions, and other articles and substances."</p> <p>The specification did not show how machinery was to be cleansed, and the Court held the patent to be bad.</p>		
K		
The King <i>v.</i> Arkwright	53	Day. P. C., 61; Webs. R., 64.
<p>This was a writ of <i>sci. fa.</i> to repeal letters patent granted to the defendant for preparing and spinning cotton and other material. Before this patent, what</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>are called <i>rovings</i> were made by hand, from them spinings were produced by machinery previously patented by the defendant. The chief object of this patent was to make considerable lengths of rovings by machinery.</p> <p>The specification enrolled to the patent described various parts of machinery, but no complete machine, and the description in no way pointed out what was the peculiarity or novelty, nor how the parts were to be brought into action. It was ruled, that a patentee must disclose his secret and specify his invention in such manner that others may be taught to do the thing for which the patent is granted, for the end and meaning of a specification is to teach the public. If the specification in any part of it be materially false or defective, the patent is against the law, and cannot be supported.</p>		
<p>The King v. Else</p> <p>This patent was for combining silk and cotton in the manufacture of lace. The specification simply proposed to do this, but described no means of accomplishing it.</p> <p>It was objected to the patent, that silk and cotton had before been used together in the making of lace. The defendant proposed to show by evidence that the means practised by the defendant were different from those previously used.</p> <p>It was held, that the patent claimed the exclusive right of making lace composed of silk and cotton mixed, not for a particular mode of mixing them; and, it being admitted that they had before been mixed in that manufacture, the patent was declared void.</p>	103	Bull. N. P., 76; Dav. P. C., 144; Webs. R., 76.
<p>The King v. Cutler</p> <p>The patent in this case was for feeding a fire-place with fuel, by raising the same from out of a box or chamber below into the fire-place, the fuel below not becoming ignited till it was raised into a certain position; but the specification did not confine the invention to this mode of carrying out the principle of raising the fuel, but claimed it generally; and it was proved that fire-places had before been made where the fuel was raised from below upwards, contracting the depth of the fire-place. It was ruled, that the principle on which the old grates were constructed, was identical with</p>	351	1 Stark, 354.

Names of Cases.	Reported Page	Where reported in other works.
<p>that described in the specification, which was for applying fuel from below, and there was nothing predicated in the specification of raising the fuel from a chamber below into the grate, it was generally for elevating a supply of fuel from below. Had the patentee confined himself by thus summing up the extent of his invention, and not claimed the benefit of this principle, the patent might have been sustained. The patent was declared void.—<i>Per Lord Ellenborough.</i></p>		
<p>The King v. Metcalfe</p>	392	2 Stark., 249.
<p>This patent was taken for "a tapered hair or head brush." The specification described that the brushes, according to the patent, were to be made with tufts, the hairs of which were to be of different lengths, in place of all the hairs of each tuft being of the same length as previously practised. It was held, that "tapering" means gradually converging to a point. According to the specification, the bristles would be of unequal lengths, but there would be no tapering to a point, which the title of the patent assumed. If the word "tapering" be used in its general sense, the description was defective; there was no converging to a point. If the term had had a different meaning annexed to it by the usage of trade, it might be received in its perverted sense. The patent was declared void.—<i>Per Lord Ellenborough.</i></p>		
<p>The King v. Wheeler</p>	394	2 B. and A., 349.
<p>The patent in this case was taken for "a new or improved method of drying and preparing malt." The specification described the invention to consist of submitting malt to a high temperature so as to obtain therefrom a soluble colouring matter, to be used, not for making beer, but for colouring it. It was ruled by <i>Lord Chief Justice Abbott</i> at the trial, that the specification was inconsistent with the patent, and the patent void. The Court ruled, that if the patentee had not invented the matter or thing of which he represented himself to be the inventor, the patent was void; and this would not be the less true, if it should happen that the patentee had invented some other matter or thing, of which, upon a due representation thereof, he might have been entitled to a grant of the exclusive use. The word "ma-</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>nuufacture" has been generally understood to denote either a thing made, which is useful for its own sake, and vendible as such, as a stove or telescope, and many others; or to mean an engine or instrument, or some part of an engine or instrument, to be employed either in the working of some previously known article, or in some other useful purpose, as a stocking-frame, or a steam-engine for raising water from mines, or it may perhaps extend also to a new process to be carried on by known implements or elements acting on known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better or more useful kind. But no merely philosophical or abstract principle can answer to the word "manufacture." Something of a corporeal and substantial nature, something that can be made by man from the matters subjected to his art and skill, or at the least, some new mode of employing practically his art and skill is requisite to satisfy this word. The patent must not represent the party to be the inventor of one thing, and the specification shew him to be the inventor of another. The patent was declared void.</p>		
<p>The King v. Hadden</p> <p>The patent was taken out for using heat when preparing roving and spinning wool. The invention was proved to be old, and the patent held to be void. It was ruled that a witness may look at a drawing, to say whether it represents a machine before used, although the drawing was not made by the witness.—<i>Per Mr. Justice Bayley.</i></p>	447	2 C. and P., 184; 2 Rep. Arts, N. S., 150.
<p>The King v. Lister</p> <p>The patent was for applying heat in spinning wool, and was shewn by evidence to be old, and the patent was declared to be void.</p>	448, note	2 Rep. Arts, N. S., 150.
<p>The King v. Fussell</p> <p>This patent was taken for giving lustre to cloths by the use of steam, and it was shown that a previous patent of Mr. J. C. Daniell claimed hot water for the same purpose, and that parties in working after Daniell's plan, had also used steam. The specification was also defective, and the patent was declared void.</p>	449	

Names of Cases.	Reported Page	Where reported in other works.
<p>The King v. Daniell</p> <p>This was a very valuable yet simple invention, and is now constantly used. It consisted of rolling woollen cloth on a roller, and placing it for some time in hot water, by which a beautiful lustre was obtained to the face of the cloth. Evidence was brought to show that the invention had before been used, and the patent was declared void.</p>	453	
<p>Koops, ex parte</p> <p>An application was made by petition to the Lord Chancellor (<i>Eldon</i>), to dispense with the enrolling a specification; or that provision should be made to prevent the invention becoming known to foreigners; or that his Lordship would enlarge the time for enrolling the specification, to allow time for application to Parliament to pass an Act to dispense with the enrolment of the specification. His Lordship dismissed the petition, stating that the public had a right to go to the Patent-office to see the specification, and that the specification was for the benefit of the public: and, further, that the Great Seal could not be taken off the patent. Nothing but an Act of Parliament could do that.</p>	175	6 Ves., 599.
L		
<p>Lacey, in re</p> <p>Application was made to the Chancellor to seal a patent, the proviso allowing fifteen months in the place of the usual time for enrolling the specification. His Lordship refused to allow that time.</p>	353	Webs. R., 431; 29 Rep. Arts, 250.
<p>Ledsam et als., Russell, v.</p>	564	
<p>Lewis and another v. Davis</p> <p>This patent was taken for improvements in a former patent for shearing cloth, and one claim of invention consisted of using a rotatory cutter across the cloth, in place of lengthwise of the cloth. It was contended, that the first patent must be put in evidence, as part of the plaintiff's case, and his Lordship (<i>Lord Tenterden</i>) so ruled. And then it was urged, that the first patent was bad, and that a patent for improvements of a thing that was void, must also be void. It was further contended, that the rotatory cutter being</p>	471	3 C. and P., 502; Webs. R., 488.

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<p>old, the patent could not be good for changing the direction of the cut. It was held, that it was not material whether the first patent was useful or not, and that if cutting from list to list by a rotatory cutter had not before been combined the patent would be sustained.</p>		
<p>Lewis and another v. Marling</p>	475	4 C. and P., 52; 10 B. & C., 22; 5 M. & R., 16;
<p>In these cases the same patent was in question as in the preceding case, but against another defendant. It was objected, that the patent was bad because it claimed the use of a brush, to be used in the machine, which was useless, and had been abandoned. His Lordship (<i>Lord Tenterden</i>) overruled the objection. If the brush made of plush had been set forth as an essential part of the machine, the patent could not have been supported.</p> <p>A model had been brought from America of a similar machine and shewn to several manufacturers, and it was ruled thereon, that, till the invention of the plaintiff came out, there was not used or exercised in England any machine that would cut from list to list by rotatory cutters. If these plaintiffs had seen this model, or known of it, the case would be different.</p> <p>And, by <i>Mr. Justice Bayley</i>, it was said, If the patentee suppresses anything, or if he misleads, or if he does not communicate all he knows, the specification is bad. So, if he says that there are many modes of doing a thing, when, in fact, one only will do; this will also void the patent.</p> <p>If I make a discovery, and am enabled to produce an effect from my own experiments, judgment, and skill, it is no objection that some one else has made a similar discovery, unless it has become public. So, if I introduced a discovery <i>bonâ fide</i> made, I may have a patent for it, though a person might have received privately a communication from abroad which would enable him to have made the machine.</p>	478	L. and W., 28; Webs. R., 490.
<p>Liardet v. Johnson</p> <p>The patent was for a cement, and was declared to be bad in law, by reason of the insufficiency of the specification.</p> <p><i>Lord Mansfield</i> said, The meaning of the specification is that others may be</p>	35	Bull. N. P., 76; Webs. R., 53.

Names of Cases.	Reported Page	Where reported in other works.
<p>taught to do the thing for which the patent is granted, and if the specification is false, the patent is void. The patentee should, to the very best of his knowledge, give the fullest and most sufficient description of all the particulars on which the effect depends.</p>		
Lister, <i>The King</i> , v.	448, <i>note</i>	
M		
Macfarland v. Price	309	1 Stark., 199.
<p>The patent was for parasols and umbrellas. The specification described old parts as well as new, but did not point out the new from the old. <i>Per Lord Ellenborough</i>.—A specification ought to inform other persons consulting it, what is new and what is old.</p>		
Mansell's Patent	12	—
<p>This patent was granted before the passing of the Act of James I., and was specially saved from the provisions of that Act.</p>		
Manton v. Parker	274	Dav. P. C., 327.
<p>This invention was for improvements in fire-arms, and it was objected that the invention did not accomplish what it was said to do, and that being proved to be the case in Court, the Judge nonsuited the plaintiff.</p>		
Manton v. Manton	278	Dav. P. C., 333.
<p>This was an action brought against the defendant for infringing two patents for fire-arms. It was contended that the inventions were old, and evidence was given to show that such was the case, the evidence on behalf of the plaintiff tending to show novelty. His Lordship (<i>Lord C. J. Gibbs</i>) told the Jury that if any one person had done the same thing the patents could not be sustained.</p>		
Marling, Lewis et al., v.	475	
Maltby, Hayne et al., v.	113	
Minter v. Wells and another	622	5 Tyr., 163; 1 C.
<p>This invention was for improvements applied to an easy-chair, and consisted in applying levers to the backs</p>		M. and R., 505; Webs. R., 127—134; 2 Rep.

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<p>and seats, acting in a particular manner. The claim was "the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair, as above described." It was held, that if it could be shown that any self-adjusting leverage acting in that manner, had ever been applied to the back and seat of a chair, that the patent would be void, and on the other hand, if the patent were valid, then that any use of leverage to the back and seat of a chair, acting in the same manner, though differently arranged, would be an infringement of the patent. It was also ruled, that a person who is called in by an inventor to carry an invention into practical use, becomes in the hands of the inventor, a machine, and is not the inventor. In applying for a new trial, it was contended that the patent was for a principle; this was over-ruled, and it was held that the patent was not for a leverage only, but a self-adjusting leverage, and not a self-adjusting leverage only, but a self-adjusting leverage, producing a particular effect, by means of which the weight on the seat counterbalanced the pressure against the back. It was also ruled, that every invention of this kind must include the application of some principle, and here the application of the principle of the lever to the construction of reclining chairs constituted the invention.</p>		<p>Arts, N. S., 80, 352.</p>
<p>Minter v. Williams</p> <p>The declaration in this case stated that the defendant had exposed for sale chairs, made according to the plaintiff's patent. The defendant demurred to the declaration, on the grounds that the declaration should have averred in the words of the patent. The Court held that the declaration was bad.</p>	<p>647</p>	<p>4 A. and E., 251; 5 Nev. & M.; 1 Har. & Wol., 585; Webs. R., 135.</p>
<p>— v. Mower</p> <p>This case involved the questions decided in <i>Minter v. Wells</i> and another, but additional evidence was produced by the defendant to shew that the patent was bad for want of novelty, and a chair was put in, containing, amongst other things, apparatus similar to that claimed in the plaintiff's specification, together with apparatus which prevented such apparatus acting.</p>	<p>650</p>	<p>6 A. and E., 735; 1 Nev. & M.; 1 Mur. and H., 55; Webs. R., 138 — 142; 4 Rep. Arts, N. S., 83.</p>

Names of Cases.	Reported Page	Where reported in other works.
<p>The jury found the plaintiff was not the first and true inventor of the machine, in the following words:—"We are of opinion that Brown was the inventor of the machine, and found out the principle, but not the practical purpose to which it is now applied. We think that Minter made that discovery." The Court held the patent to be bad.</p>		
Metcalf, <i>The King, v.</i>	392	
Moore et al., <i>Browne, v.</i>	305	
————— <i>Bovill et al., v.</i>	320	
<p><i>Morris v. Bramson</i></p> <p>This patent was taken out for improvements on a previous patent taken by another person, and the plaintiff paid patent rent to the first patentee. The plaintiff's invention consisted in making lace-work in stocking-frames, or machines, by the use of the same sort of instruments as those described by the previous patentee, but the first patentee only used the apparatus for narrowing the ordinary stocking, whereas by the plaintiff's mode of working, a description of ornament was produced in the fabrics made in the machinery. It was objected, that the machinery was the same as before invented, and that at most it was only an addition to the old machinery. These objections were over-ruled, and the patent supported.</p>	30	Bull, N. P., 76; Webs. R., 51.
Mower, <i>Minter, v.</i>	650	
N		
<p><i>Newbery v. James et al.</i></p> <p>This was an application to the Court of Chancery, for the specific performance of an agreement relating to the making of Dr. James's powders. The patent had expired, the process was conducted in secret, and the defendants threatened to divulge the secret, on which an <i>ex parte</i> injunction was obtained, but was dissolved on the filing of the answer; the defendants being directed to keep an account, should the plaintiff proceed at law for damages.</p>	367	2 Mer., 446.
Nightingale, <i>Arkwright, v.</i>	38	

NAMES OF CASES.

XXIX

Names of Cases.	Reported Page	Where reported in other works.
P		
Parker, Manton, v.	274	
Pearce, Jones, v.	524	
Pears, Watson, v.	268	
Playne, Harmer, v.	246	
Price, Macfarland, v.	309	
Price, Savory, v.	431	
R		
Raincock, Hicks, v.	37	
Redmund, <i>in re</i>	463	5 Russ., 44.
This was an application by petition to the Master of the Rolls, to amend certain clerical errors in the engrossing of a specification, which had been discovered after the enrolment of the specification. The alterations were ordered to be made.		
Ripley et al., Jones, v.	611	
Riviere, Forsyth, v.	401	
Rostron et als., Bowman, v.	662	
Russell v. Cowley et als.	531	1 C. M. and R., 864; Webs. R., 457, 459, 463, 471; 16 Rep. Arts, N.S., 116.
_____	532	
_____	532	
_____	557	
This patent was taken for a mode of welding iron tubes by applying external circumferential pressure without internal support; it was the simple avoiding of the use of an instrument which had, theretofore, been troublesome in making tubes.		
The Court of Chancery having ordered an inspection of the defendants' works, by certain engineers, who were to give evidence at the trial, the Court further ordered, that such engineers might have such other persons to assist as they might desire.		

Names of Cases.	Reported Page	Where reported in other works.
<p>At the trial, it was held, that the use of grooved rollers, in place of the dies described, was an infringement of the patent, provided no internal support was used. It was held, that although the specification did not, in express words, say that the patent consisted of leaving out the mandril when external pressure was used for welding; reading the whole of the specification, there could be no doubt that that was the proper construction.</p>		
<p>Russell v. Barnsley</p> <p>This was an application to dissolve an injunction which had been obtained by the plaintiff. The Court considered that the defendant had committed an infringement, if the patent was valid, and, therefore, continued the injunction requiring the plaintiff to bring his action, notwithstanding the previous suit of <i>Russell v. Cowley and others</i> was pending, and would test the validity of the patent.</p>	563	<p>Webb. R., 472; 1 Rep. Arts, N. S., 97.</p>
<p>Russell v. Ledsam et als.</p> <hr/> <p>These were proceedings by the same plaintiff against other defendants, after the original patent had been extended by the Crown under Lord Brougham's Act.</p>	564 569	<p>11 M. & W., 647; 1 Dow. & Low., 347.</p>
S		
<p>Sanders v. Aston</p> <p>This was an invention for improvements in manufacturing covered buttons made by dies and pressure, and consisted of applying a flexible shank in place of an inflexible metal shank. The specification claimed many modes of doing it, some of which were old, and the patent was held to be bad. Application was afterwards made to enter a disclaimer under Lord Brougham's Act, which passed some years after the trial, but before the fourteen years of the patent expired. The application was refused, on the grounds that several persons had gone into the trade on the faith of the results of the trial.</p>	510	3 B. & A., 881.
<p>Savory v. Price</p> <p>This patent was taken for making what has ever since been called <i>Seidlitz</i></p>	431	<p>1 Ry. and Moo., 1; 44 Rep. Arts, 2d S., 122.</p>

Names of Cases.	Reported Page	Where reported in other works.
<p><i>powders.</i> The specification described the chemical processes by which the result was to be produced, giving three preparations of materials, which were to be combined when used. It was objected, that all these preparations were old; they could be purchased at a chemist's shop; and, therefore, the giving difficult chemical processes tended to mislead the public; and it was held <i>per Lord Chief Justice Abbott</i>, that this "specification, tending to make people believe an elaborate process essential to the invention, cannot be supported. The plaintiff must be nonsuited."</p>		
Smethurst, Cochrane (Lord), <i>v.</i> . . .	311	
<p>Smith <i>v.</i> Dickenson</p> <p>The plaintiff under an agreement with the defendant, disclosed to him his secret of invention. The defendant subsequently took out Letters Patent for the invention. The action was brought to recover damages for the wrong so done; the damages being laid at 1,000<i>l.</i>, that being the sum mentioned in the agreement as a penalty. The Court held that the word "penalty," used in the agreement, prevented that sum being considered as liquidated damages. The jury found for the plaintiff, giving 300<i>l.</i> damages, the defendant agreeing to assign the Letters Patent to the plaintiff.</p>	238	3 B. and P., 630.
Stephens, Edgeberry, <i>v.</i>	35	
Stephenson, Hesse, <i>v.</i>	186	
<p>Sturtz <i>v.</i> De la Rue et als.</p> <p>The invention in this case was for preparing the surface of paper and cardboard with a white enamelled surface. The title given to the patent was, "Certain improvements in copper and other plate printing;" and, in describing the invention, the patentee, in speaking of one of the ingredients, directed the use of "the finest and purest chemical white lead." It was proved that there was no substance known by that name in this country.</p> <p>It was objected to the patent, first, that the title and the invention did not agree, inasmuch as it was a preparation of paper in a peculiar manner, and was not for copper or other plate printing; and, secondly, it was objected that</p>	463	5 Russ., 322; 8 Rep. Arts, N. S., 51.

Names of Cases.	Reported Page	Where reported in other works.
<p>the patent was void, by reason of parties being unable to know how to perform the invention: no product of white-lead known in this country would answer the purpose. <i>Lord Lyndhurst</i> held, that the title was sufficient; any alteration of the processes, from the preparing the paper, to the taking the impression, being improved, could be consistent with and satisfy the title; and his Lordship, on the second objection, considered the patent bad.</p>		
<p><i>Sykes v. Sykes et al.</i></p> <p>The plaintiff had obtained Letters Patent for shot-belts and powder-flasks. The defendant sold similar articles, marked "<i>Sykes' Patent</i>," and an action was brought against the defendants for so doing, not because they were infringing the patent, but because they were wrongfully selling the articles marked patent, they having no patent, the plaintiff had a patent, but he had not been able to support the validity of it at law. The declaration averred that the defendants sold the goods, as and for goods manufactured by the plaintiff. The evidence at the trial showed that the sale took place to a person knowing that they were manufactured by the defendants. A verdict was found for the plaintiff with damages. On application for a new trial, the declaration was held to be sufficient.</p>	433	3 B. and C., 541; 5 D. & R., 292.
T		
<p><i>Taylor v. Hare.</i></p> <p>This was an action brought to recover back 425<i>l.</i>, paid by the plaintiff for the right of using a patent under a deed setting forth that the exclusive right to the invention had been granted to the defendant, and it turned out, that the invention was old, and that the patent was not valid. It was held, that money paid for the use of an invention under the circumstances, could not be recovered.</p>	243	1 B. & P., 260.
<p><i>Taylor et al., Bowman v.</i></p>	654	
<p><i>Tennant's Case.</i></p> <p>This patent was taken for the preparation of a bleaching liquid, and it was proved at the trial, that before the date of the patent, a bleacher in Not-</p>	177	Dav. P. C., 429; Webb. R., 125.

Names of Cases.	Reported Page	Where reported in other works.
<p>tingham had for some years prepared bleaching liquor in the same manner, but kept it secret, except in respect to his two partners and two servants; and it was also shewn that a chemist had suggested to Mr. Tennant the invention. The learned judge (<i>Ellenborough</i>) non-suited the plaintiff.</p>		
<p>Thompson et al., <i>Hill, v.</i></p>	<p>369</p>	
<p>Turner <i>v.</i> Winter</p>	<p>105</p>	<p>1 T. R., 602; Dav. P. C., 145; Webs. R., 77.</p>
<p>This patent was taken for producing a yellow colour, and making white lead. It was objected to the patent, first, that the specification directed an ingredient to be calcined, which would not produce the effect, fusion being necessary; secondly, that "fossil salt" was improperly mentioned, there being many fossil salts, and only one would answer the purpose; thirdly, that the process, as described, did not produce the result suggested by the specification. It was ruled, <i>per Mr. Justice Ashurst</i>, that a patentee must give a specification of the invention in the clearest and most unequivocal terms of which the subject was capable; and that the patent was void if there was anything which tended to mislead the public; and, further, that a man of science, without experiment, ought to produce the thing intended. And it was ruled by <i>Mr. Justice Buller</i>, that where the invention is questioned, the plaintiff must give evidence of the novelty and utility of the invention, and that the effect is produced as described in the specification; and that a patent is void if the patentee does not put the public in possession of the invention in such manner as to enable them to derive the same benefit as he does himself; and the patent will be void where the patentee says he can produce, by one process, three things, and he fails in any one, the consideration for the grant fails, and the Crown has been deceived.</p>		
<p>W</p>		
<p>Walker <i>v.</i> Congreve</p>	<p>356</p>	<p>29 Rep. Arts, 311.</p>
<p>This was a patent taken for constructing vessels of metal for gunpowder, in place of wood. An <i>ex parte</i> injunction had been obtained against Sir W. Congreve, then holding office under Government, for infringing the patent.</p>		

Names of Cases.	Reported Page	Where reported in other works.
<p>The defendant paid no respect to the injunction, but applied to have it dissolved. The Lord Chancellor ordered the injunction to be dissolved, directing an action to be tried, under an account to be kept by Government, of all instruments used.</p>		
<p>Watson v. Pears</p> <p>In this case the patent required a specification to be enrolled within one calendar month of the grant. The patent was dated 10th May, 1808; the specification was enrolled on the 10th June following. It was held, that this was a good enrolment.</p>	268	2 Camp., 294
<p>Wood et als. v. Zimmer et als.</p> <p>These were proceedings to try the validity of a patent for making verdigris. It appeared at the trial that the patentee had, before the date of the patent, sold the verdigris; and, further, that the patentee had purposely withheld one of the ingredients in the specification. It was ruled by <i>Lord Chief Justice Gibbs</i>, that a patentee possessing a mode of carrying on an invention, must disclose the means fully and without reserve. If anything which gives an advantageous operation be concealed, the patent is void.</p>	290	Holt, N. P., 58.
Z		
<p>Zimmer et als., Wood et als., v. . . .</p>	290	

P R E F A C E.

THE various Reports of proceedings at law and in equity relating to patents for inventions which have been printed are only to be found in extensive law libraries, distributed over upwards of one hundred volumes, and in very few instances are there to be found two Reports of patent cases in one volume ; the patentee, the inventor, and the manufacturer can therefore have no opportunity of becoming acquainted with the views and opinions of the Judges on the various questions of patent law, and the constructions which have been put on the wording of the specifications.

To draw a specification correctly requires a thorough knowledge of the various decisions in causes involving patent rights, also an intimate acquaintance with the practical working of the invention to be described ; and further, in order that the extent of the invention may be well defined, correct and extensive information should be possessed by the person engaged as to what has been previously patented and used in the manufacture to which the invention relates. There are no rules for drawing a specification as there are for preparing other legal documents, the language of a specification is necessarily that of the factory, the technical terms and expressions of the workshop must be used in order to

a workman understanding the description of a patented invention, and these are often wholly incomprehensible to a Judge and to other legal men until they are explained. These circumstances render it very difficult to obtain a correct legal opinion of what is the contents of a specification, or the probable construction which a court of law would put upon it. A manufacturer may thoroughly understand the working of the invention described, but for want of information as to the construction put by courts of law on similar documents, he is unable to judge of the legal extent of the claims to invention. If a barrister be consulted and he be not intimately acquainted with the practical working of the particular manufacture, and with what had been the precise state of that manufacture before the patent (which can very seldom be the case), his opinion will be of little use—in fact, counsel's opinion on a patent can only be useful when he is made acquainted with all the facts which surround the case both for and against the patent;—on the other hand, a man of science unpractised in law is only qualified to judge of the correctness of the description of the invention, as to whether it is sufficient to enable a workman to carry it into practice. Law, science, and much practical knowledge of manufactures are necessary to be possessed by the same individual, or brought together in different persons, in order to draw a specification, or to give a correct opinion of the construction which a court of law will put on a particular specification.

I have often been requested to publish a collection of the law reports of patent cases for the benefit of patentees, manufacturers, and inventors, in order that they who already understand the practical part of the question may become better able to judge of the legal

construction of specifications, or at least be better able to consult others as to the extent of invention claimed by such documents. It appears to me that publishing the law reports of patent cases without the specifications, or so much thereof as have been called into question, would not be sufficient. I therefore propose to give the specifications, or the parts inquired into, together with the substance of the evidence for and against the patents; and when necessary, such further explanations of the state of the particular manufactures previous to the dates of the patents in question, as will enable the reader better to understand the full extent of the invention, for the want of which information many of the published reports are scarcely to be understood even by legal men, certainly not by the general reader.

It may be objected by some, that a work of this description should only come from a gentleman of the bar. If this publication were intended chiefly for legal men, such an objection would have much more force than it can have when it is understood that the principal object of collecting and publishing the reports of patent cases, is to give information to the manufacturer, the patentee, and the inventor. I may, however, state, as a justification of my venturing into print on such a subject, that some years back I studied for and qualified myself to be called to the bar; added to which, I have for several years had extensive practice as a civil engineer, particularly in those branches of that profession which relate to machinery, and the application of the mechanical arts to the production of manufactures. I have also long advised on subjects of patent law;—these circumstances induce me to hope, that I am not unqualified to produce a work, which may fairly be considered to require a knowledge of two professions—law and engineering.

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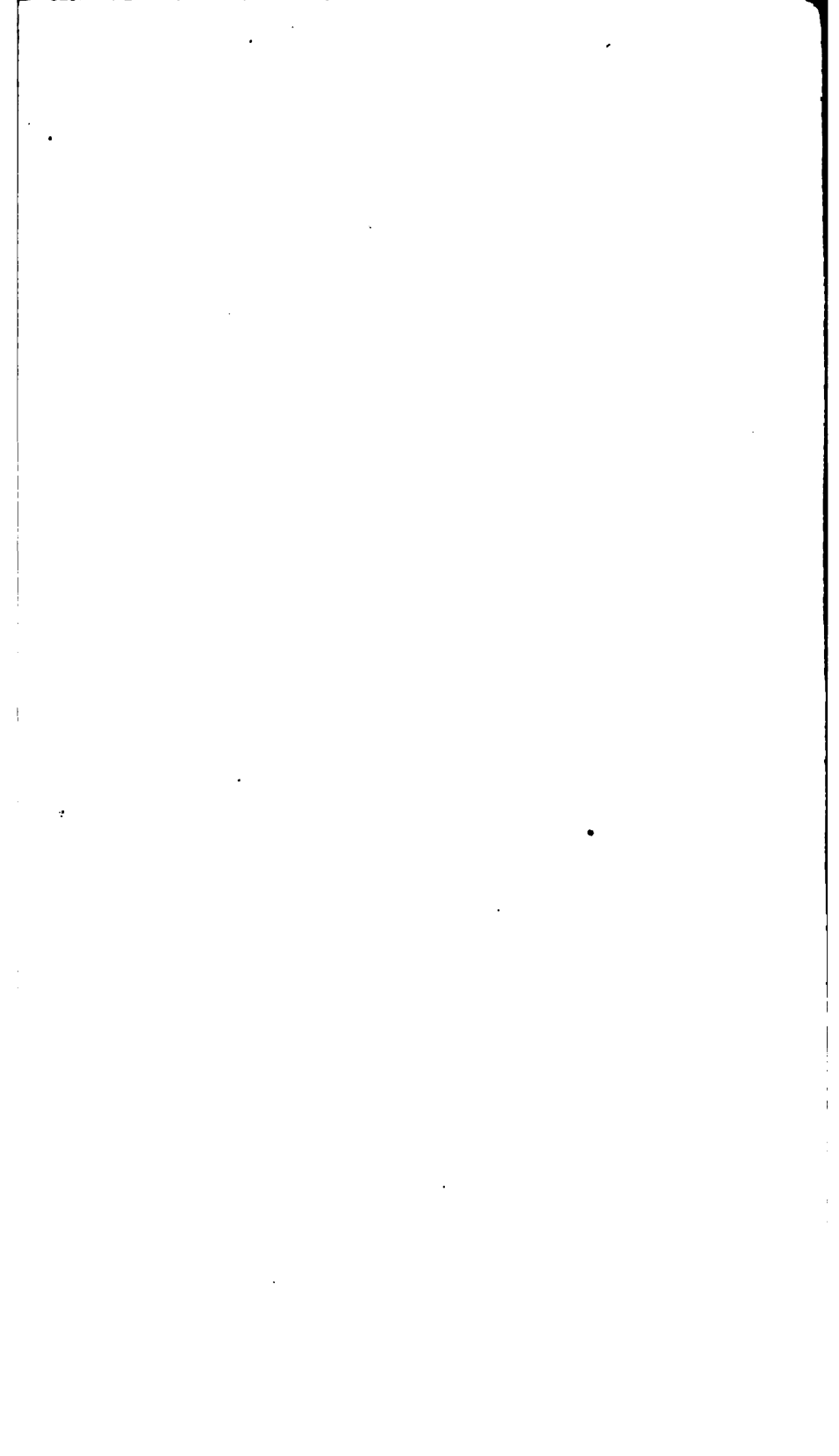
One great cause of litigation in patents has been the want of understanding as to what is the subject-matter of a patent, and how far an inventor can claim for a particular invention. Many have supposed, and do now suppose, that a patentee can only claim the exact details of machinery or process which he describes as the means of carrying out his invention; and it is only of late years that courts of law have clearly laid it down, and established the principle, that an inventor may fairly and properly claim, not only the details which he practises, but also the application of the peculiar character or principle of the invention which he has for the first time brought to bear in a particular manufacture. Thus in the case of *Russell v. Cowley*, the patentee was not confined to the particular dies used when leaving out the maundril in welding iron tubes; but the claim of invention was held to be, the using of any dies suitable for giving the requisite external pressure, when the iron, at a welding heat, was drawn or passed through them, without the internal support of a maundril. In the case of *Minter v. Wells*, the claim was for the application of a self-adjusting leverage to the back and seat of a chair, producing certain effects; it was held that any application of a self-adjusting leverage to the back and seat of a chair, producing these effects, was an infringement of the patent. The cases of *Jupe v. Pratt*, *Morgan v. Seaward*, *Fisher v. Dewick*, and many others, have all gone to support this enlarged view of the inventor's rights.

There is another point of patent law which is very little understood, and that is, what quantity of using of an invention before the date of a patent, will destroy its validity: the publication of the various cases involving that point, will enable parties to understand this part of the subject.

My object in publishing these reports is to advance a correct knowledge of the subject amongst those most interested—the patentee, the inventor, and the manufacturer, in the hope that patented inventions may be still better secured, and litigation lessened.

WILLIAM CARPMAEL.

Lincoln's Inn, Dec. 1, 1842.



LAW REPORTS

OF

PATENT CASES.

THE STATUTE OF MONOPOLIES.

21st James I., c. 3, A.D. 1624.

AN Act concerning monopolies and dispensations, with penal laws and the forfeiture thereof.

Forasmuch as your Most Excellent Majesty, in your Royal judgment, and of your blessed disposition to the weal and quiet of your subjects, did, in the year of our Lord God One thousand six hundred and ten, publish in print to the whole realm, and to all posterity, that all grants of monopolies, and of the benefit of any penal laws, or of power to dispense with the law, or to compound for the forfeiture, are contrary to your Majesty's laws, which, your Majesty's declaration is truly consonant and agreeable to the ancient and fundamental laws of this realm. *All monopolies shall be void.*

And whereas your Majesty was further graciously pleased expressly to command that no suitor should presume to move your Majesty for matters of that nature; yet, nevertheless, upon mis-informations and untrue pretences of public good, many such grants have been unduly obtained and unlawfully put in execution, to the great grievance and inconvenience of your Majesty's subjects, contrary to the laws of this realm, and contrary to your Majesty's most Royal and blessed intention, so published as aforesaid: for avoiding whereof and preventing the like in time to come, may it please your Excellent Majesty, at the humble suit of the Lords spiritual and temporal, and the Commons in this present

Parliament assembled, that it may be declared and enacted by authority of this present Parliament, that all monopolies and all commissions, grants, licenses, charters, and letters patent heretofore made or granted, or hereafter to be made or granted to any person, or persons, bodies politic or corporate whatsoever, of or for the sole buying, selling, making, working, or using of any thing within this realm or the dominion of Wales, or of any other monopolies, or of power, liberty, or faculty to dispense with any others, or to give licence or toleration to do, use, or exercise any thing against the tenor or purport of any law or statute, or to give or make any warrant for any such dispensation, license, or toleration to be had or made, or to agree or compound with any others for any penalty or forfeitures limited by any statute, or of any grant or promise of the benefit, profit, or commodity of any forfeiture, penalty, or sum of money, that is or shall be due by any statute, before judgment thereupon had; and whatsoever in any way tending to the instituting, erecting, strengthening, furthering, or countenancing of the same, or any of them, are altogether contrary to the laws of this realm; and so are and shall be utterly void and of none effect, and in no wise to be put in use or execution.

Monopolies shall be tried by the common law of this realm.

II. And be it further declared and enacted by the authority aforesaid, that all monopolies, and all such commissions, grants, licenses, charters, letters patent, proclamations, inhibitions, restraints, warrants of assistance, and all other matters and things tending as aforesaid, and the force and validity of them and of every of them, ought to be and shall be for ever hereafter examined, heard, tried, and determined by and according to the common law of this realm and not otherwise.

All persons disabled to use monopolies, &c.

III. And be it further enacted, by the authority aforesaid, that all person and persons, bodies politic and corporate, whatsoever, which now are, or hereafter shall be, shall stand, and be disabled, and incapable to have, use, exercise, or put in use, any monopoly or any such commission, grant, licence, charter, letters patents, proclamation, inhibition, restraint, warrant of assistance, or other matter or

thing tending as aforesaid, or any liberty, power, or faculty, grounded, or pretended to be grounded upon them, or any of them.

IV. (*Any party grieved by a pretext of a monopoly shall recover treble damage and double costs.*)

V. Provided nevertheless, and be it declared and enacted, that any declaration before mentioned shall not extend to any letters patents and grants of privilege, for the term of one and twenty years or under, heretofore made, of the sole working or making of any manner of new manufacture, within this realm, to the first and true inventor or inventors of such manufactures, which others, at the time of the making of such letters patents and grants, did not use, so they be not contrary to the law, nor mischievous to the State, by raising of the prices of commodities at home, or hurt of trade, or generally inconvenient; but that the same shall be of such force as they were, or should be, if this Act had not been made, and of none other: and if the same were made for more than one and twenty years, that then the same, for the term of one and twenty years only, to be accounted from the date of the first letters patents, and grants thereof made, shall be of such force as they were, or should have been, if the same had been made; but for term of one and twenty years only, and as if this Act had never been had or made, and of none other.

Not to extend to letters patents previously granted, for twenty one years for new manufactures.

VI. Provided also, and be it declared and enacted, that any declaration, before mentioned, shall not extend to any letters patents and grants of privilege, for the term of fourteen years or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm, to the true and first inventor and inventors of such manufactures which others, at the time of making such letters patents and grants, shall not use, so as also they be not contrary to the law, nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient, the said fourteen years to be accounted from the date of the first letters patents, or grant of such

Nor to such as shall be granted for fourteen years.

privilege hereafter to be made; but that the same shall be of such force as they should be if this Act had never been made, and of none other.

VII. (*This Act not to extend to grants by Parliament.*)

VIII. (*Warrants granted to justices saved from the effects of this Act.*)

IX. (*Charters granted to corporations saved from the effects of this Act.*)

X. (*Letters patents that concern printing, salt-petre, gunpowder, great ordnance, shot, or offices saved.*)

XI. (*This Act not to extend to commissions for allum mines.*)

XII. (*This Act not to extend to the liberties of Newcastle-upon-Tyne, nor tavern licences.*)

*Nor to certain
privileges for
making glass,
or concerning
calves' skins.*

XIII. Provided also, and be it enacted, that this Act, or any declaration, provision, penalty, forfeiture, or other thing, before mentioned, shall not extend or be prejudicial to a grant or privilege for or concerning the making of glass, by his Majesty's letters patents, under the great seal of England, bearing date the two and twentieth day of May, in the one and twentieth year of his Majesty's reign of England, made and granted to Sir Robert Mansell,*

* Patent to Sir Robert Mansell, granted the 22d day of May, in the 21st year of the reign of James I.

This patent recites that in a patent granted in the twelfth year of the same reign it is mentioned that a scarcity of wood was resulting from the general demand, and that it was necessary to obtain supplies from foreign countries, that it was necessary by good laws to ensure the preservation and increase of timber and wood, that perceiving that glass works and working of glass with timber and wood to be one of the greatest and the thickest means to consume timber, a grant was made to Sir Jerome Bowes, Knight, within England and Ireland, for a certain term, prohibiting all other persons making glass, with power to put an end to such patent. That a similar grant was made to Sir Percival Hart, Knight, and Edward Fawcett, Esq., commencing from the expiration of the grant to Sir Jerome Bowes, Knight. The patent also recites several other similar grants; it then recites that such grants had become prejudicial and hurtful unto the realm, there being then lately presented by Thomas Percival, Esq., a project of new invention for making all manner of glasses with pit coal and other fuel, not being timber or wood, for which the said letters patent of January in the twelfth year of the said reign was granted to Thomas Percival, Sir Robert Mansell, and others, for twenty-one years, within England and Wales or else-

Knight, Vice Admiral of England; nor to a grant or letters patents, bearing date the twelfth day of

where, with sea coal, pit coal, or any other fuel whatsoever, not being timber or wood, yielding and paying to the crown an annual rental of 1,000*l*. That patent then prohibits all persons from buying or contracting for any sort of glass made in foreign countries, and from selling or uttering any such glass. The patent then recites that Sir R. Mansell had contracted with the other patentees, and was willing to take on himself the rental and all other liabilities, and that the patent of the twelfth year of the said reign had become liable to be rendered void at common law, in consequence of having become hurtful and prejudicial owing to the high charges for the glass, and the letters patent were complained of in Parliament as a grievance. The patent then sets forth that, "Know ye, that we, taking the premises into our gracious and princely consideration, do hereby declare that, inasmuch as the said letters patent bearing date the said 19th day of January, and other letters patent before mentioned and recited, did become prejudicial to the public, and in the execution of them grievous to our loving subjects, that we will not hereafter take upon us the defence or protection of any of the said letters patent." . . . "And yet nevertheless, upon deliberation, advice with the Lords and others of our Privy Council, and at the humble petition of the said Sir Robert Mansell, that the making of glass of all kinds within this kingdom with sea coal and pit coal was brought to a full and exact perfection for the use and good of our kingdom, with the expense of his whole fortune; upon due consideration of the many and faithful services of the said Sir Robert Mansell, and finding by the petitions and certificates of glass sellers," &c., &c. (. . .) "That the glass made by the said Sir Robert Mansell was perfectly good, clear, and merchantable, or rather better than formerly was made with wood." (. . .) "We are pleased and resolved, and do hold it most requisite and necessary for the good and benefit of this realm, that the making of glass with sea coal and pit coal be continued, and that all making of glass with wood for ever hereafter shall cease, and the privilege for sole making thereof with sea coal and pit coal shall be renewed to the said Sir Robert Mansell, not only as a token of our grace and favour towards him, by his many and well-deserved services, but as a recompense for the great charge and expense which for upholding and bringing of that work to full perfection, he hath disbursed to the weakening of his estate; but yet, without any restraint of the importation of foreign glass and burden of rent, or otherwise which might occasion the enhancing of prices to our subjects, whereby all just grievances shall be taken away, by our loss of the annual rent which upon the said letters patent was reserved unto us." The patent then goes on to grant the sole privilege of making glass by sea coal or pit coal to the said Sir Robert Mansell for fifteen years, prohibiting all other persons making glass in any way, giving very strong powers to search out infringement.

It is evident that this patent, if not specially saved by the

June, in the thirteenth year of his Majesty's reign of England, made to James Maxewell, Esquire, concerning the transportation of calves' skins; but that the said several letters patents, last mentioned, shall be and remain of the like force and effect, and as free from the declarations, provisions, penalties, and forfeitures, before mentioned, as if this Act had never been had nor made, and not otherwise.

*Nor to certain
privileges con-
cerning the
making of smalt
and melting of
iron ewer, &c.*

XIV. Provided also, and be it declared and enacted, that this Act, or any declaration, provision, penalty, forfeiture, or other thing, before mentioned, shall not extend or be prejudicial to a grant or privilege for or concerning the making of smalt, by his Majesty's letters patent, under the great seal of England, bearing date the sixteenth day of February, in the sixteenth year of his Majesty's reign of England, made or granted to Abraham Baker; *

above clause of the statute, would have been liable to be set aside as a monopoly, because it granted the sole right of making an old article or manufacture—if the patent had been granted only for the sole right of applying sea coal or pit coal in the manufacture of glass, and that had been a new invention at the time, it would have been a good subject for a patent under the above statute of James I., and would not have required to have been saved, but it was not a new invention so to use coal, a previous patent having been in force for several years, and surrendered in order that these letters patent should be granted.—W. C.

* *Letters patent granted to Abraham Baker, 16th February, in the sixteenth year of the reign of James I., for the manufacture of smalt.*

This patent recites that the previous patent granted to the said Abraham Baker and Sir George Hay, Knight, had been surrendered to be cancelled and made void. The patent then makes a grant in the following words:—"Know ye, that we, as well in consideration of the faithful and acceptable service to us done and performed by our trusty and well-beloved servant, the said George Hay, Knight, one of the Gentlemen of our Privy Chamber, and in consideration of his great costs, charges, and expenses, bestowed in assisting the said Abraham Baker in the discovery, finding out, and perfecting of the said art and invention of making, working, and compounding of the said smalt, by these presents, for us, our heirs, and successors, at the humble request and nomination of the said Sir George Hay, do give, grant, and confirm unto the said Abraham Baker, full, free, lawful, and absolute power, license, and authority, that he the said Abraham Baker, his executors, administrators, deputies, factors, assigns, and servants, and every or any of them only, and none other shall, and may from time to time, and at all times hereafter, during the term of thirty and one years next, and immediately following after the date hereof."

nor to a grant or privilege for or concerning the melting of iron ewer, and of making the same into cast works or bars with sea coals or pit coals, by his Majesty's letters patents, under the great seal of England, bearing date the twentieth day of February, in the nineteenth year of his Majesty's reign of England, made or granted to Edward Lord Dudley ; *

The patent requires Baker to covenant that the supply of smalt shall be sufficient and as good and cheap as that brought from abroad, and various powers are given to the said Abraham Baker, and all importation and making of smalt is prohibited.

The reasons before given for saving the patent for glass-making from the operation of the statute, apply to the present patent for making of smalt. Had it not been saved by the statute of James the First, it would have been declared a monopoly under that statute.—W. C.

* *Letters Patent granted to Edward Lord Dudley, the 22d February, in the 19th year of the reign of James the First, for the Manufacture of Iron with Sea-coal or Pit-coal.*

" Whereas our right trusty and well-beloved Edward Earl Dudley hath, at his great travail and industry," "found out the mystery, art, way, and means of melting of iron ewer, and of making the same into cast works or bars, with sea-coal or pit-coal, in furnaces with bellows, of as good condition as hath been heretofore made of charcoal, a work and invention not formerly performed by any within this our kingdom of England, we graciously favouring and willing to cherish such ingenious and profitable inventions, and finding that the working and making of the said iron, by the means aforesaid, within this kingdom, will not only in itself tend to the public good thereof, but also thereby the great expense and waste of timber and wood converted into charcoal, and consumed upon iron works will be much abated, and the remnant of wood and timber within this land will be much preserved and increased." "Know ye, that we, for the causes aforesaid, and other good considerations us hereunto moving of our especial grace, certain knowledge and mere motion, have given and granted, and by these presents, for us, our heirs and successors, do give and grant unto the said Edward Lord Dudley, his executors, administrators, and assigns, full and free liberty, license, power, and authority, that they and every of them, by him or themselves, or his or their deputies, factors, servants, or workmen, at his and their charges, shall and may, at all and every time and times, and from time to time, during the term of fourteen years next ensuing the date hereof, use, exercise, practise, and put in use, within this our realm of England and the dominion of Wales, at his and their liberty and pleasure, the said mystery, art, way, and means of melting iron ewer, and of making the same into cast work, or bars with sea-coal or pit-coal, in furnaces with bellows." The patent then restrains all parties whatsoever from making iron with pit-coal or sea-coal without the license of Edward Lord Dudley, and gives powers for pulling down any furnaces put up for such pur-

but, that the same several letters patents and grants shall be and remain of the like force and effect, and as free from the declarations, provisions, penalties, and forfeitures, before mentioned, as if this Act had never been had nor made, and not otherwise.

11TH HENRY VI. c. 1.

For Regulating the Dates of Letters Patent.

WHEREAS, by suit made to the King by divers persons, it hath been desired by their petitions to have offices, farms, and other things, of the gift and grant of the King by his gracious letters patent thereof to them to be made, desiring by the same petition the same letters patent of the King, to bear date at a certain day limited in the same, the which day is often long before the King's grant to them, made of their said petitions, whereby the King's letters patent to them thereupon made, have borne the same date, by reason whereof divers of the King's liege people, having such offices, farms, and other things, of the gift, or grant of the King, by his gracious letters patent thereof to them long time before duly made, by such subtle imagination of such ante-dates desired by such petitions of such offices, farms, and other things often have been put poses without consent, together with punishment by imprisonment. The patent reserves power to the Crown for putting an end to the grant should it become inconvenient to the commonwealth.

It is not very clear why this patent was saved from the operation of the Act, seeing that it recites that the invention was for a new manufacture of iron by applying pit-coal in place of wood as the fuel in the making of iron; but it is found that a previous patent had been granted to Simon Sturtevant, in 1612, for thirty years, for making iron with pit-coal, but he failed of success in practice, and surrendered his patent in 1613, to be cancelled. There were also several other patents granted before that to Lord Dudley, for applying pit coal in the smelting of iron ore, but the means taken by the parties failed of success, and the patents had been surrendered. (See "Webster's Reports," and "Notes on Letters Patent," page 16.) Hence a question might have been raised as to whether Lord Dudley was the first inventor, and this probably will account for Lord Dudley's patent being saved from the operation of the statute.—W. C.

out, removed, and expelled against right good conscience and reason, Our said Lord the King, willing to put out such imaginations, by the advice and assent of the Lords Spiritual and Temporal aforesaid, and at the special request of the said Commons, hath ordained by authority of the same Parliament, that of every warrant hereafter sent by the same, our Lord the King, or his heirs, to the Chancellor of England for the time being, the day of the delivery of the same to the Chancellor shall be entered of record in the Chancery; and that the Chancellor do cause letters patent to be made upon the same warrant, bearing date the day of the said delivery in the Chancery, and not before in anywise. And if any letters patent be from henceforth made to the contrary they shall be void, frustrate, and holden for none.

13TH ELIZABETH c. 6.

An Act that the Exemplification or Constat of Letters Patent shall be as good and available as the Letters Patent themselves.

DIFFICULTIES and doubts having arisen as to the putting letters patent into evidence in such cases as the original document had been lost or destroyed, it was enacted by this statute that "by showing forth an exemplification or constat under the Great Seal of England of the enrolment of the same letters patent, or of so much thereof as shall and may serve to or for such title, claim, or matter, the same letters patent then being and remaining in force not lawfully surrendered nor cancelled for or concerning so much and such part and parcel of such lands, tenements, hereditaments, or other things whereunto such title or claim shall be made, as if the same letters patent were pleaded, and showed forth, any usage or other thing to the contrary notwithstanding."

5TH AND 6TH WILLIAM IV. c. 83.

To amend the Law touching Letters Patent for Inventions.

WHEREAS it is expedient to make certain addi-

tions to and alterations in the present law touching letters patent for inventions, as well for the better protecting of patentees in the rights intended to be secured by such letters patent, as for the more ample benefit of the public from the same: be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, that any person who, as grantee, assignee, or otherwise, hath obtained, or who shall hereafter obtain letters patent, for the sole making, exercising, vending, or using of any invention, may, if he think fit, enter with the Clerk of the Patents of England, Scotland, or Ireland, respectively, as the case may be, having first obtained the leave of his Majesty's Attorney-General or Solicitor-General in case of an English patent, of the Lord-Advocate or Solicitor-General of Scotland in the case of a Scotch patent, or of his Majesty's Attorney-General or Solicitor-General for Ireland in the case of an Irish patent, certified by his fiat and signature, a disclaimer of any part of either the title of the invention or of the specification, stating the reason for such disclaimer, or may, with such leave as aforesaid, enter a memorandum of any alteration in the said title or specification, not being such disclaimer or such alteration as shall extend the exclusive right granted by the said letters patent; and such disclaimer or memorandum of alteration, being filed by the said Clerk of the Patents, and enrolled with the specification, shall be deemed and taken to be part of such letters patent or such specification in all courts whatever: provided always, that any person may enter a caveat, in like manner as caveats are now used to be entered, against such disclaimer or alteration; which caveat being so entered shall give the party entering the same a right to have notice of the application being heard by the Attorney-General, or Solicitor-General, or Lord-Advocate respectively: provided also, that no such disclaimer or alteration shall be receivable in evidence in any action or suit (save and except in any proceeding by Scire facias) pending at the time

Any person having obtained letters patent for any invention may enter a disclaimer of any part of his specification, or a memorandum of any alteration therein, which, when filed, to be deemed part of such specification.

Caveat may be entered as heretofore.

Disclaimer not to affect actions pending at the time.

when such disclaimer or alteration was enrolled, but in every such action or suit the original title and specification alone shall be given in evidence, and deemed and taken to be the title and specification of the invention for which the letters patent have been or shall have been granted: provided also, that it shall be lawful for the Attorney-General, or Solicitor-General, or Lord-Advocate, before granting such fiat, to require the party applying for the same to advertise his disclaimer or alteration in such manner as to such Attorney-General, or Solicitor-General, or Lord-Advocate shall seem right, and shall, if he so require such advertisement, certify in his fiat that the same has been duly made.

Attorney-General may require the party to advertise his disclaimer.

II. And be it enacted, that if in any suit or action it shall be proved or specially found by the verdict of a jury that any person who shall have obtained letters patent for any invention or supposed invention was not the first inventor thereof, or of some part thereof, by reason of some other person or persons having invented or used the same, or some part thereof, before the date of such letters patent; or if such patentee or his assigns shall discover that some other person had, unknown to such patentee, invented or used the same, or some part thereof, before the date of such letters patent, it shall and may be lawful for such patentee or his assigns to petition his Majesty in Council to confirm the said letters patent or to grant new letters patent, the matter of which petition shall be heard before the Judicial Committee of the Privy Council; and such Committee, upon examining the said matter, and being satisfied that such patentee believed himself to be the first and original inventor, and being satisfied that such invention or part thereof had not been publicly and generally used before the date of such first letters patent, may report to his Majesty their opinion that the prayer of such petition ought to be complied with, whereupon his Majesty may, if he think fit, grant such prayer; and the said letters patent shall be available in law and equity to give to such petitioner the sole right of using, making, and vending such invention as against all persons whatsoever, any law, usage, or custom to

Mode of proceeding where patentee is proved not to be the real inventor, though he believed himself to be so.

the contrary thereof notwithstanding: provided, that any person opposing such petition shall be entitled to be heard before the said Judicial Committee: provided also, that any person, party to any former suit or action touching such first letters patent, shall be entitled to have notice of such petition before presenting the same.

If in any action or suit a verdict or decree shall pass for the patentee, the Judge may grant a certificate, which being given in evidence in any other suit shall entitle the patentee, upon a verdict in his favour, to receive treble costs.

III. And be it enacted, that if any action at law or any suit in equity for an account shall be brought in respect of any alleged infringement of such letters patent heretofore or hereafter granted, or any Scire facias to repeal such letters patent, and if a verdict shall pass for the patentee or his assigns, or if a final decree or decretal order shall be made for him or them, upon the merits of the suit, it shall be lawful for the Judge before whom such action shall be tried to certify on the record, or the Judge who shall make such decree or order to give a certificate under his hand, that the validity of the patent came in question before him, which record or certificate being given in evidence in any other suit or action whatever touching such patent, if a verdict shall pass, or decree or decretal order be made, in favour of such patentee or his assigns, he or they shall receive treble costs in such suit or action, to be taxed at three times the taxed costs, unless the Judge making such second or other decree or order, or trying such second or other action, shall certify that he ought not to have such treble costs.*

Mode of proceeding in case of application for the prolongation of the term of a patent.

IV. And be it further enacted, that if any person who now hath or shall hereafter obtain any letters

* This section of the Act has been repealed by an Act passed in the 5th and 6th of Vic., chap. xcvi., sec. 2, which is in these words:—" II. And be it enacted, that so much of any clause, enactment, or provision in any public Act or Acts, not local or personal, whereby it is enacted or provided, that either double or treble costs, or any other than the usual costs between party and party, shall or may be recovered, shall be and the same are hereby repealed: Provided always, that instead of such costs the party or parties heretofore entitled under such last-mentioned Acts to such double, treble, or other costs, shall receive such full and reasonable indemnity as to all costs, charges, and expenses incurred in and about any action, suit, or other legal proceeding, as shall be taxed by the proper officer in that behalf, subject to be reviewed in like manner and by the same authority as any other taxation of costs by such officer."

patent, as aforesaid, shall advertise in the "London Gazette" three times, and in three London papers, and three times in some country paper published in the town where or near to which he carried on any manufacture of any thing made according to his specification, or near to or on which he resides, in case he carried on no such manufacture, or published in the county where he carries on such manufacture, or where he lives, in case there shall not be any paper published in such town, that he intends to apply to his Majesty in Council for a prolongation of his term of sole using and vending his invention, and shall petition his Majesty in Council to that effect, it shall be lawful for any person to enter a caveat at the Council Office; and if his Majesty shall refer the consideration of such petition to the Judicial Committee of the Privy Council, and notice shall first be by him given to any person or persons who shall have entered such caveats, the petitioner shall be heard by his counsel and witnesses to prove his case, and the persons entering caveats shall likewise be heard by their counsel and witnesses; whereupon, and upon hearing and inquiring of the whole matter, the Judicial Committee may report to his Majesty that a further extension of the term in the said letters patent should be granted, not exceeding seven years; and his Majesty is hereby authorized and empowered, if he shall think fit, to grant new letters patent for the said invention, for a term not exceeding seven years after the expiration of the first term, any law, custom, or usage to the contrary in anywise notwithstanding: provided that no such extension shall be granted if the application by petition shall not be made and prosecuted with effect before the expiration of the term originally granted in such letters patent.

V. And be it enacted, that in any action brought against any person for infringing any letters patent, the defendant on pleading thereto shall give to the plaintiff, and in any Scire facias to repeal such letters patent, the plaintiff shall file with his declaration, a notice of any objections on which he means to rely at the trial of such action, and no objection shall be allowed to be made in behalf of such defendant or

*In case of
action, &c.,
notice of ob-
jections to be
given.*

plaintiff respectively at such trial, unless he prove the objections stated in such notice: provided always, that it shall and may be lawful for any Judge at chambers, on summons served by such defendant or plaintiff, on such plaintiff or defendant respectively, to show cause why he should not be allowed to offer other objections whereof notice shall not have been given as aforesaid, to give leave to offer such objections, on such terms as to such Judge shall seem fit.

As to costs in actions for infringing letters patent.

VI. And be it enacted, that in any action brought for infringing the right granted by any letters patent, in taxing the costs thereof, regard shall be had to the part of such case which has been proved at the trial, which shall be certified by the Judge before whom the same shall be had, and the costs of each part of the case shall be given according as either party has succeeded or failed therein, regard being had to the notice of objections, as well as the counts in the declaration, and without regard to the general result of the trial.

Penalty for using, unauthorized, the name of a patentee, &c.

VII. And be it enacted, that if any person shall write, paint, or print, or mould, cast, or carve, or engrave or stamp, upon any thing made, used, or sold by him, for the sole making or selling of which he hath not or shall not have obtained letters patent, the name or any imitation of the name of any other person who hath or shall have obtained letters patent for the sole making and vending of such thing, without leave in writing of such patentee or his assigns, or if any person shall upon such thing, not having been purchased from the patentee or some person who purchased it from or under such patentee, or not having had the license or consent in writing of such patentee or his assigns, write, paint, print, mould, cast, carve, engrave, stamp, or otherwise mark the word "patent," the words "letters patent," or the words "by the King's patent," or any words of the like kind, meaning, or import, with a view of imitating or counterfeiting the stamp, mark, or other device of the patentee, or shall in any other manner imitate or counterfeit the stamp, or mark, or other device of the patentee, he shall for every such offence be liable to a penalty of fifty

pounds, to be recovered by action of debt, bill, plaint, process, or information, in any of his Majesty's courts of record at Westminster or in Ireland, or in the Court of Session in Scotland, one half to his Majesty, his heirs and successors, and the other to any person who shall sue for the same : provided always, that nothing herein contained shall be construed to extend to subject any person to any penalty in respect of stamping or in any way marking the word "patent" upon any thing made, for the sole making or vending of which a patent before obtained shall have expired.

2D AND 3D VICTORIA, c. 67.

To amend the Law touching Letters Patent for Inventions.

WHEREAS by an Act passed in the fifth and sixth years of the reign of his Majesty King William the Fourth, intituled, "An Act to amend the Law ^{5 & 6 W. 4,} touching Letters Patent for Inventions," it is amongst ^{c. 83.} other things enacted, that if any person having obtained any letters patent as therein mentioned, shall give notice, as thereby required, of his intention to apply to his Majesty in Council for a prolongation of his term of sole using and vending his invention, and shall petition his Majesty in Council to that effect, it shall be lawful for any person to enter a caveat at the Council Office, and if his Majesty shall refer the consideration of such petition to the Judicial Committee of the Privy Council, and notice shall be first given to any person or persons who shall have entered such caveats, the petitioner shall be heard by his counsel and witnesses to prove his case, and the persons entering caveats shall likewise be heard by their counsel and witnesses, whereupon, and upon hearing and inquiry of the whole matter, the Judicial Committee may report to his Majesty that a further extension of the term in the said letters patent shall be granted, not exceeding seven years, and his Majesty is thereby authorized and empowered, if he shall think fit, to grant new

letters patent for the said invention, for a term not exceeding seven years after the expiration of the first term, any law, custom, or usage to the contrary notwithstanding; provided that no such extension shall be granted if the application by petition shall not be made and prosecuted with effect before the expiration of the term originally granted in such letters patent: And whereas it has happened since the passing of the said Act, and may again happen, that parties desirous of obtaining an extension of the term granted in letters patent of which they are possessed, and who may have presented a petition for such purposes, in manner by the said recited Act directed, before the expiration of the said term, may nevertheless be prevented by causes over which they have no control, from prosecuting with effect their application before the Judicial Committee of the Privy Council; and it is expedient, therefore, that the said Judicial Committee should have power, when under the circumstances of the case they shall see fit, to entertain such application, and to report thereon, according to the provisions of the said recited Act, notwithstanding that before the hearing of the case before them, the terms of the letters patent sought to be renewed or extended may have expired: Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, that so much of the said recited Act as provides that no extension of the term of letters patent shall be granted as therein mentioned, if the application, by petition, for such extension be not prosecuted with effect before the expiration of the term originally granted in such letters patent, shall be and the same is hereby repealed.

Repealing provision requiring the application by petition to be prosecuted with effect before the expiration of the term of the patent.

Term of patent right may be extended in certain cases though the application for such extension

II. And be it further enacted, That it shall be lawful for the Judicial Committee of the Privy Council, in all cases where it shall appear to them that any application for an extension of the term granted by any letters patent, the petition for which extension shall have been referred to them for their

consideration, has not been prosecuted with effect before the expiration of the said term, from any other causes than the neglect or default of the petitioner, to entertain such application, and to report thereon, as by the said recited Act provided, notwithstanding the term originally granted in such letters patent may have expired before the hearing of such application; and it shall be lawful for her Majesty, if she shall think fit, on the report of the said Judicial Committee recommending an extension of the term of such letters patent, to grant such extension, or to grant new letters patent for the invention or inventions specified in such original letters patent, for a term not exceeding seven years after the expiration of the term mentioned in the said original letters patent: Provided always, that no such extension or new letters patent shall be granted if a petition for the same shall not have been presented as by the said recited Act directed, before the expiration of the term sought to be extended, nor in case of petitions presented after the thirtieth day of November, one thousand eight hundred and thirty-nine, unless such petition shall be presented six calendar months at the least before the expiration of such term, nor in any case unless sufficient reason shall be shown, to the satisfaction of the said Judicial Committee, for the omission to prosecute with effect the said application by petition before the expiration of the said term.

III. And be it further enacted, that this Act may be altered, amended, or repealed, by any Act to be passed in the present session.

be not prosecuted with effect before the expiration thereof.

Act may be amended this session.

DARCY *v.* ALLEN.

Trinity Term, 1602, before Chief Justice Popham.

THE patent was granted to Edward Darcy, Groom of the Chamber to Queen Elizabeth, for the importation and manufacture of playing cards.

The declaration stated, that the defendant knowing the said grant and prohibition in the plaintiff's letters patent, did cause eighty gross of playing cards to be made as well as one hundred gross of playing cards, of which many were made within the realm, or brought within the realm by the defendant, or by his servants, factors, or deputies, and that the defendant had sold them without the license of the Queen or of the plaintiff, contrary to the said grant. The defendant, excepting to one half gross, pleaded not guilty, and with respect to that he pleaded the rights of the City of London, of which he was a freeman, and that he sold the said half gross of playing cards, being made within the realm, as it was lawful to do. To which the plaintiff demurred.

Two general questions were argued at the bar, which arose out of the distinct grants in the patent, the sole making and the sole importation.

1st. If the grant to the plaintiff of the sole making of playing cards within the realm were good or not?

2d. If the grant of the sole importation were good or not?

It was contended in behalf of the plaintiff as to the first, that playing cards were not an article of merchandise, but of vanity and idleness, and that the Queen might restrain their use; and further, that in consequence of the frauds and abuses they occasioned, she might entirely suppress them. It was resolved by Chief Justice Popham and the whole Court, that the patent is utterly void. It is a monopoly both against the common and the statute law.

1st. All trades which exercise men and youths in labour are profitable, and any charter against the liberty of the subject is against the common law, and therefore void.

2d. The sole trade of a mechanical artifice is not only

a damage to traders in the same way of business but to all others, because it produces three incidents of a monopoly, the increase of price, the diminution of quality, and the impoverishing of artificers.

With regard to the second question, "If the grant of the sole importation were valid," it was resolved that the enjoyment of such exclusive privilege without any limitation is likewise utterly void against both the unwritten and written law, and the instance was adduced of the sole importation of sweet wine in the time of Edward III., which was adjudged void.*

IN the matter of the petition of Sir Kenelm Digby, Knight, 1635.

This petition stated, that his Majesty had been graciously pleased to bestow upon him certain lands, that in the bill signed by his Majesty part of the said lands were properly stated to be in the county of Kent, but by a clerical error in some of the subsequent proceedings, the patent was sealed stating the lands to be in the county of *Kank*. The petition prayed that the error should be corrected.

At the Court of Salisbury, 1635, his Majesty was pleased to direct that the error should be corrected and made agreeable with the bill, and the patent when amended resealed. In conformity to which his Majesty's

* The Reports of Sir Edward Coke furnish a great variety of cases on the subject of monopolies, but being previous to the statute 21 James I., when it may properly be said the present doctrine of the law of patents for invention commenced, and as all cases antecedent to that period would rarely be applicable to the present practice, it has not been thought requisite to set them out. Indeed, the subject of monopolies (truly so called) is now almost obsolete in our laws, and it is referred to only by the curious or by the student. Should research, however, into the subject be necessary, the following works may be advantageously referred to:—Coke's 3d Inst., 181; Coke's Reports (grants from the Crown); S'Ewes, pp. 648—652; Hume's History of England, vols. v. and vi.; Rushworth, vol. ii., pp. 136—252.

Sir Edward Coke gives the following definition of a monopoly:—"A monopoly is an institution or allowance by the King, by his grant, commission, or otherwise, to any person or persons, bodies politic or corporate, of or for the sole buying, selling, making, working, or using of anything whereby any person or persons, bodies politic or corporate, are sought to be restrained of any freedom or liberty *that they had before*, or hindered in their lawful trade."

W. C.

pleasure, the Right Hon. the Lord Keeper having seen as well the said letters patent as the privy seal, whereupon the same did pass remaining in this court, and having also seen the original bill signed by his Majesty's hand, and the transcript thereof which passed the signet, and finding the information in the said petition to be very just and true, and having advised with his Majesty's Attorney-General, both ordered that the privy seal remaining in this court and the enrolment thereof be amended, and that the seal be pulled from the letters patent, and the same patent amended and new sealed, according to his Majesty's good pleasure. And this order grounded upon his Majesty's directions shall be sufficient warrant to the clerks and other officers of the court to whom it appertaineth for doing thereof.*

DOLLOND'S CASE, 1758,

Cited in the Cause of Boulton and Watt v. Bull.

AN action for infringement of Dollond's patent, of 1758, for a new method of making the object-glasses of refracting telescopes.

It was proved that many years before the date of Dollond's patent, a Dr. Hall had made and continued to use object glasses of precisely similar construction to those of the patent; but Dr. Hall had only used them in his own observatory, and had made no publication of their construction or use: on the contrary, he received credit for the correctness of his observations, the public not knowing by what means he made them. This was

* Many patents for inventions have contained clerical errors which have been corrected after the sealing of the patents, but of late years no petition is resorted to. The practice now is, and has been for many years, to have the errors corrected by a marginal note in the warrant, and bills where the errors have been contained in those documents; which note is signed by the Secretary of State by direction of the Queen, and the officers of the different offices through which the patent passes between the bill and the great seal have then altered the various documents, and also the patent, which is again sealed, but with what is called a "*cold seal*," in place of pulling off the seal. When the error has been in documents after the Queen's bill, then the officers have altered the documents without going to the Crown, and the patent has then been sealed with a cold seal. In thus resealing a patent in consequence of and in order to correct clerical errors, no new date is given to the grant, there being no fresh receipt of a privy seal bill by the Lord Chancellor. W. C.

held to be no publication; and it was objected by the defendant, that a patent for a mere method could not be sustained; also, that the specification* merely described

* The specification of Dollond's patent was as follows:—"To all to whom these presents shall come.—I, John Dollond, of the parish of Saint Martin-in-the-Fields, in the county of Middlesex, Optician, send greeting:—Whereas his Most Excellent Majesty King George the Second, by his letters patent under the great seal of Great Britain, bearing date at Westminster, the nineteenth day of April, in the thirty-first year of his reign, did give and grant unto me, the said John Dollond, his especial lycense, that I, the said John Dollond, during the term of years therein expressed, should and lawfully might use, exercise, and vend within England, Wales, and town of Berwick-upon-Tweed, my invention of a new method of making the object-glasses of refracting telescopes, by compounding mediums of different refractive qualities, whereby the errors arising from the different refrangibility of light, as well as those which are produced by the spherical surfaces of the glasses, are perfectly corrected: in which said letters patent there is contained a proviso obliging me, the said John Dollond, under my hand and seal, to cause a particular description of the nature of the said invention, and how the same is to be performed, to be enrolled in his Majesty's High Court of Chancery, within three calendar months after the date of the said recited letters patent, as in and by the same (relation being thereunto had) may more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said John Dollond, do hereby declare, that my said new method of making the object-glass of refracting telescopes, is to be performed in the manner following (that is to say):—the principal glass of a refracting telescope is that which is farthest from the eye, and is commonly called the object-glass, because it is at that end of the telescope which is directed toward the object. This glass refracts the rays which proceed from the object in such a manner as to form an image of the aforesaid object in the florms, which image is magnified by the eye-glasses; but as every ray of light consists of parts that differ in their degrees of refrangibility, an image fform by refraction is thereby rendered very defective, as all opticians very well know. Now, in these new telescopes, the images of objects are formed by the difference between two contrary refractions, the object-glass being a compound of two or more glasses put close together, whereof one is concave and the other convex. The excess of refraction by which the image is formed is in the convex glass, which is made of a medium or substance in which the difference of refrangibility is not so great as in the substance which the concave is made of; therefore their refractions being proportioned to their difference of refrangibility, there remains a difference of refraction by which the image is formed, without any difference of refrangibility to disturb the vision. The radii of the surfaces of each of these glasses are likewise so proportioned as to make the aberrations or errors which proceed from the spherical surfaces of these glasses respectively equal, and being contrary, they destroy each other.—In witness whereof, I, the said John Dollond, have hereunto set my hand and seal this twenty-third day of May, one thousand seven hundred and fifty-eight.

"JOHN DOLLOND."

the principle, but not the mechanical construction. It stated, that the new object-glass is a compound of two or more glasses put close together, whereof one was concave, the other convex; those glasses being made of glass of different refractive qualities, and each glass adapted to the other, so as to correct the errors arising from the refrangibility of light (making coloured rays), and also the errors arising from the spherical surfaces of the glasses (making distorted images). This patent was sustained, and the following opinions were given on this patent, when citing it in the case of *Boulton and Watt v. Bull*.

Chief Justice Eyre says,—“Dollond’s patent was perhaps objectionable, being for the method of producing a new object-glass instead of being for the new object-glass produced, because the mechanism or process by which it was produced, though perhaps new, will be only useful as producing the new article.”

Mr. Justice Heath says,—“I consider Dollond’s patent to be substantially for an improved machine. A patent for an improvement of a refracting telescope, and a patent for an improved refracting telescope, are in substance the same; the same specification would serve for a patent taken in either of those terms.”

Mr. Justice Buller says,—“As Dollond first made public, he was held to be considered as the first inventor. Dollond’s telescopes are certainly a manufacture within the statute 21st James I. They consist of principles reduced into form and practice, and the patent is for glasses completely formed, not for mere principles. The specification describes the manner in which the invention is to be carried into effect, with all the perspicuity of which the thing is capable.”

MORRIS v. BRAMSOM.

Before Lord Chief Justice Mansfield—Easter Term, 1776.

THIS was an action for infringement of the plaintiff’s patent of 1764, for a machine with a set of needles to be applied to a stocking-frame for making oilet-holes or network of silk, thread, or cotton.*

* The patent was granted to Thomas Morris, John Morris, John

[This patent had before been infringed and an action had been tried, *Morris v. Else*, in 1766, and a verdict obtained in favour of the patent.]

Betts, and William Betts, and assigned to the plaintiff. The specification was in these words:—"To all to whom these presents shall come, John Morris, of the town of Nottingham, hosier, sendeth greeting.—Whereas, the King's Most Excellent Majesty, by letters patent under the Great Seal of Great Britain, bearing date at Westminster, the twenty-eighth day of March last past, gave and granted to Thomas Morris and the said John Morris, both of the town of Nottingham aforesaid, hosiers, and John and William Betts, of the town of Mansfield, in the county of Nottingham, their executors, administrators, and assigns, his Majesty's especial license, full power, sole privilege, and authority for the said Thomas and John Morris, and John and William Betts, their executors, administrators, and assigns, by themselves or by their deputy or deputies, servants, or agents, or such others as they should agree with from time to time, to make, use, exercise, and vend their invention of an engine or machine on which is fixed a set of working needles, which engine or machine is fixed to a stocking-frame for the making of oilet-holes or network in silk, thread, cotton, or worsted, as mitts, gloves, hoods, aprons, handkerchiefs, and other goods usually manufactured upon stocking-frames by a method entirely new, within that part of Great Britain called England, dominion of Wales, and town of Berwick-upon-Tweed, according to the statute in that case made and provided, in such manner as to them, the said Thomas and John Morris, and John and William Betts, their executors, administrators, and assigns, or any of them should seem meet; and that they should and lawfully might have and enjoy the whole profit, benefit, commodity, and advantage from time to time arising by reason of the said invention, to hold, exercise, and enjoy the said license, powers, privileges, and advantages therein granted unto the said Thomas and John Morris, and John and William Betts, their executors, administrators, and assigns, for and during and unto the full end and term of fourteen years from the date of the said letters patent next and immediately ensuing, and fully to be complete and ended according to the statute in that case made and provided; in which said letters patent is contained a proviso that if the said Thomas and John Morris, and John and William Betts, or any one of them should not particularly describe the nature of the said invention and in what manner the same is to be performed by an instrument, in writing under their hands and seals, or the hand and seal of one of them, and cause the same to be enrolled in the High Court of Chancery within four calendar months next, and immediately after the date of the said letters patent; that then the said letters patent and all liberties and advantages whatsoever thereby granted should utterly cease, determine, and become void, as by the same letters patent (relation being thereunto had) may more fully appear. Now know ye, that I, the said John Morris, in pursuance of the said proviso in the said letters patent contained, do hereby declare that the said invention of an engine or machine, on which is fixed a set of working needles, which engine or machine is fixed to a stocking-frame for the making of oilet-holes or net-work in silk, thread, cotton, or worsted, as mitts, gloves, hoods, aprons, handkerchiefs, and other goods

In the present case witnesses were called in behalf of the defendants to prove that they had invented the

usually manufactured upon stocking-frames by a method entirely new, is particularly described in the plans hereunto annexed.

References to the Drawing.—Fig. 1st, represents the machine. *a*, the dog, which strikes into the catches of the tumbler. *a*, a tumbler fixed on the left hand centre, as represented in fig. 2d. *b*, the centres, to which the working needle bar is erected. *c*, the working needles, hollowed in the under side, as represented in fig. 4th. *d*, a plate to push the stitch from the working needles to the stocking needles. *e*, the leads, into which are cast five working needles, as in fig. 4th. *f*, screws that fasten the working needle leads to the needle bar. *g*, the working needle bar, screwed to the centres. *h*, the upright cheeks. *i*, a spring, screwed to the right hand cheeks which commands the centres. *k*, the facing-bar, screwed to each of the upright cheeks, as in fig. 3. *l*, the bottom-arms. *m*, the cross-bar, screwed to each bottom-arm. *n*, the back joint, screwed to the bar. *o*, the aforesaid bar, screwed to the top side of the rafter-rail. *p*, a large spring that carries the whole machine, screwed to the side of the rafter. *q*, a trinker, moved by the knee, which commands the large spring that carries the machine. *r*, a small spring, screwed to the front of the rafter, which works the trinker. *s*, the rafter-rail. *t*, a small spring fixed upon the dog, as in fig. 2d. *v*, a spring, screwed to the rafter, which spring is attached at a proper distance from the stocking needles. *w*, the double links, screwed to the stops of the stocking-needle-bar, which commands the top part of the machine in all its proper motions. *x*, the stocking-needle bar stop.—Fig. 5. No. 1, the presser bar belonging to the frame. 2, the foreslide, with notches at the bottom, which presses every other needle, and is moved at pleasure to any particular place, by means of a small spring at the top, number 4, which strikes into little nicks, which are answerable to every needle. 3, the back slide, which moves upwards or downwards, and when down presses all the needles as a common presser. 4, a small spring, screwed to the top side of the presser. 5, two small springs that keep up the back slide. 6, stops screwed to the foreside of the presser, to prevent the slide going too much one way or the other. 7, slots in the foreslide, to admit its moving backward and forward. The slide upon the presser, which lies on the back side and slots upwards, is to answer the same end as a common presser. When it has performed its business in working as many courses as the workman pleases, it is slot upwards out of the way; and the slide which lies on the foreside of the presser, which has nicks cut in the edge answerable to every other stocking-needle, slides sideways, and is pressed and depressed upon the stocking-needles where the workman pleases. When the work is put back on the stocking-needles, the presser is pressed down, and every other needle strikes into the nicks, and the work is brought forward, one half comes over the beard, the other half under the beard. Before it is brought to the needle heads, the machine is raised up by moving the trinker with the knee, and the working needles are set under the stitch which lies above the beard, which receives the stitch by bringing the frame forwards. When the working needles have received the stitch, the dog is pressed by the thumb, which causes the working needles to rise upright. Then the working needle bar is moved sideways as the workman pleases, and then the working needles are turned upon the

machinery before the date of the patent; but the evidence did not go to show that the invention was publicly used, or that any knit fabrics with oillet (eye let) holes had been brought into the market. This invention was also shown to be an improvement of a previous patent of Mr. Strutt, and the plaintiff paid a patent rent in order that he might use his invention. Mr. Strutt's using ticklers to remove the loops off one needle on to another, in order to narrow or shape the fabrics not as in the present invention, for the purpose of varying the effect of the stitches or loops interlooped into each other, so as to produce ornamental open work in knit fabrics. In both machines the same instruments were used for removing the loops off the needles and to place them on to other needles; but the manner of doing it was different, so that different fabrics were produced; the mode of working under Strutt's patent producing a close knit fabric, that of the plaintiff producing open work or oillet holes in the knit fabric. It was also urged, that the patent being only for an addition to an old machine, it could not be sustained. It was further argued, that Bramson's machinery was far superior to the plaintiff's, working much faster, and it proved so to be.*

stocking-needles, and by pushing the small plate which is under the working needles, throws the stitch on to the stocking-needles, which makes oillet holes, or network, &c. But in making various figures according to the work which is introduced from abroad, the working needles receive the stitch on the upper side of the stocking-needles, without the assistance of a slide on the presser, with having a longer eye in the stocking needle, and the machine worked as before mentioned. —In witness whereof, I, the said John Morris have hereunto, and to the plans annexed, set my hand and seal this twenty-first day of June, in the fourth year of the reign of his present Majesty King George the Third, and in the year of our Lord one thousand seven hundred and sixty-four.

JOHN MORRIS.

* It may not be uninteresting to show how the infringement by Bramson was detected. The following is from "Henson's History of Framework Knitters." Speaking of various improvements which had been made from time to time in producing eyelet-holes in knit fabrics, he says:—"Notwithstanding the ingenuity of some of the above inventions, still the projectors were compelled, after the decision against Elae (who had been supported by a joint subscription of the hosiers and the trade), to work in secret. Bramson used such precaution, and had such faithful workmen, that every attempt on the part of Morris to detect him proved fruitless, till at length he hit upon an expedient of a most singular kind. Observing that the windows of Bramson's shop

Lord Mansfield, in summing up the case to the jury, stated, that he had received a letter from one of the jury, which he had mentioned to all the Judges, to the effect that if the objection to the patent on the grounds of the invention being only an addition to an old machine were to prevail, that objection would go to repeal almost every patent that was ever granted. The verdict was for the plaintiff, with 500*l.* damages.

Mr. Justice Buller, in citing this case in *Boulton and Watt v. Bull*, says:—"In *Morris v. Bramson*, which was tried at the sittings after Easter term, 1776, the patent was for making oilet holes or net-work in silk, thread, cotton, or worsted, and the defendant objected that it was not a new invention, it being only an addition to the old stocking frame. Lord Mansfield said, after the former trial on this patent, 'I have received a very sensible letter from one of the gentlemen who was upon the jury, on the subject whether on principles of public policy there can be a patent for an addition only. I paid great attention to it, and mentioned it to all the Judges. If the general point of law, viz., that there can be no patent for an addition be with the defendant, that is open upon the record, and he may move in arrest of judgment. But that objection would go to repeal almost every patent that ever was granted.' Though his Lordship did not mention what were the opinions of the Judges, or give any opinion himself, yet we may safely collect that he thought, on great consideration, the patent was good. Since that time it has been the generally received opinion in Westminster Hall, that a patent for an addition is good, but then it must be for the addition only, and not for the old machine too.

Patent for addition
good, if confined
there.

(at the top of the house) fronted the fields, he took notice that in the heat of the summer the workmen laboured with them open, and on the Castle Hill Bramson and his witnesses took their station, with a powerful telescope, early in the morning, when Bramson usually worked the most diligently lest his frames should be discovered by their noise. He by this means saw Bramson sedulously employed in using the tickler machine, and immediately entered an action against him."

Of late years the Court of Chancery have assisted patentees in discovering whether their patents are infringed, by ordering an inspection of the works of the suspected party, on a case of reasonable suspicion being made out to the Court.

EDGEBERRY *v.* STEPHENS.*In the King's Bench.*

A GRANT of a monopoly may be to the first inventor, by the 21st James I., and if the invention be new in England, a patent may be granted though the thing was practised beyond the sea before; for the statute speaks of new manufactures within this realm, so that, if they be new here, it is within the statute: for the Act intended to encourage new devices useful to the kingdom, and whether learned by travel or by study, it is the same thing.

Agreed by Holt and Pollexfen in this case.

LIARDET *v.* JOHNSON.*Before Lord Mansfield, C. J. 1778.*

THIS was an action brought for an infringement of the plaintiff's patent, granted 1773*, for a composition or

* The specification was in these words:—"To all to whom these presents shall come, I, John Liardet, of Great Suffolk-street, in the parish of Saint Martin's-in-the-Fields, in the city of Westminster, clerk, send greeting. Whereas I the said John Liardet did, by my petition, humbly represent to his present most excellent Majesty King George the Third, that by much study and expence I had invented a composition or cement for all the branches concerning buildings, to which the same is applicable, with a grease for frictions, preserving steel, iron, and various other uses. And that in regard, I was the first inventor thereof, I therefore most humbly prayed his said Majesty that he would be graciously pleased to grant unto me, my executors, administrators, and assigns, his royal letters patent, for the sole use and benefit of the said invention within that part of his said Majesty's kingdom of Great Britain called England, his dominion of Wales, and town of Berwick-upon-Tweed, and also in all his colonies and plantations abroad, for the term of fourteen years, according to the statute in that case made and provided. His said Majesty being willing to give encouragement to all arts and inventions which might be for the publick good, was graciously pleased to condescend to my request, and therefore by his royal letters patent bearing date at Westminster the third day of April, in the thirteenth year of his reign, of his especial grace, certain knowledge and mere motion for himself, his heirs and successors, did give and grant unto me the said John Liardet, my executors, administrators, and assigns, his especial licence, full power, sole privilege, and authority,

stucco for the covering the walls of houses. This patent was set aside in consequence of insufficiency of the specification.

Lord Mansfield, in delivering judgment, said, the

that I the said John Liardet, my executors, administrators, and assigns, and every of them, by myself and themselves, or by mine or their deputy or deputies, servants or agents, or such others as I the said John Liardet, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time, and at all times thereafter, during the term of years therein expressed, should and lawfully might make, use, exercise, and vend my said invention within that part of his said Majesty's kingdom of Great Britain called England, his dominion of Wales, and town of Berwick-upon-Tweed, and also in all his colonies and plantations abroad, in such manner as to me the said John Liardet, my executors, administrators, and assigns, or any of us should in our discretion seem meet; and that I the said John Liardet, my executors, administrators, and assigns, should and lawfully might have and enjoy the whole profit, benefit, commodity, and advantage from time to time coming, growing, accruing, and arising by reason of the said invention, for and during the term of years therein mentioned; to have, hold, exercise, and enjoy the said licence, powers, privileges, and advantages, thereinbefore granted or mentioned to be granted unto me the said John Liardet, my executors, administrators, and assigns, for and during, and unto the full end and term of fourteen years from the date of the said letters patent next and immediately ensuing, and fully to be complete and ended according to the statute in such case made and provided; in which said letters patent is contained a proviso, that if I, the said John Liardet, should not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be enrolled in his said Majesty's High Court of Chancery within four calendar months next and immediately after the date of the said letters patent, that then the said letters patent and all liberties and advantages whatsoever thereby granted should utterly cease, determine, and become void, any thing thereinbefore contained to the contrary thereof in anywise notwithstanding, as in and by the said letters patent (relation being thereunto had) may more fully and at large appear. Now know ye, that I, the said John Liardet, in compliance with the said proviso, do hereby describe and ascertain the nature of my said invention, and declare that the same is composed of the several particulars following, that is to say, composition of the new cement: drying oil, any kind of absorbent matters, white or any coloured lead, solid whatsoever (gravel, sand, &c.) as circumstances will require it. Composition of the new grease for preserving steel, iron, &c. from the rust, and for frictions: take oil, any kind of absorbent matters mixed together, coloured as you please; the steel and iron must be covered with the said grease in the same manner as if painted. In witness whereof, I the said John Liardet have hereunto set my hand and seal this third day of August, in the year of our Lord 1773, and in the thirteenth year of the reign of our said sovereign lord George the Third, by the grace of God of Great Britain, France, and Ireland, king, defender of the faith, and so forth.

"JOHN LIARDET."

general questions on patents are, 1st, whether the invention was known and in use before the patent; and, 2d, whether the specification is sufficient to enable others to make it up. The meaning of the specification is, that others may be taught to do the thing for which the patent is granted; and if the specification is false, the patent is void, for after the term the public ought to have the benefit of the discovery. Hence the law requires as the price the patentee should pay to the public for his monopoly, that he should, to the very best of his knowledge, give the fullest and most sufficient description of all the particulars on which the effect depends.

HICKS *v.* RAINCOCK.

In the Court of Chancery. 1784.

THE plaintiff filed a Bill praying an injunction to stay an infringement of his patent by the defendant, for using machinery for making loops in stockings. The defendant demurred, the plaintiff not having established his right in a court of law.

The Lord Chancellor overruled the demurrer.

EXPARTE BECK.

Before the Lord Chancellor (Lord Thurlow). 1784.

IN this case, when the Privy Seal Bill was received in the Court of Chancery, on the 12th August, 1784, there was a caveat against the granting of the patent. The Lord Chancellor, after hearing the matter of the petition, took time to consider his judgment, and made his order the 27th of August, 1784, that the caveat should be discharged. The patent allowed four months for enrolling the specification. The patentee, without examining the document, imagined that the patent was dated on the day the order was given for discharging the caveat, prepared his specification on the 18th December, 1784, but was then informed that the date of the patent was the 12th.

The patentee petitioned the Lord Chancellor to alter the date of the patent by making it bear date the 27th August instead of the 12th.

The Lord Chancellor said, that although he was perfectly satisfied that the patentee was well entitled to his patent, that his case was a very hard one, yet he could not make such an use of his power as Keeper of the Great Seal, as to alter a patent in any degree upon an application of this sort: that perhaps upon petitioner's applying for a new patent, the officers might, under the circumstances, be induced to remit their fees, but that he could give no relief.

ARKWRIGHT *v.* NIGHTINGALE.

In the Common Pleas, before Lord Loughborough, Feb. 17, 1785.

THIS was an action brought against the defendant for infringing the plaintiff's patent, granted the 16th December, 1775.*

* The specification was in the following words:—"To all to whom these presents shall come.—I, Richard Arkwright, of Cromford, in the county of Derby, send greeting: Whereas I, the said Richard Arkwright, did, by my petition, humbly represent to his present most excellent Majesty King George the Third, that I had, by much study, application, and expence, contrived, invented, and brought to perfection certain instruments or machines, which would be of public utility in preparing silk, cotton, flax, and wool for spinning, and constructed on easy and simple principles, very different from any that had ever been contrived; that in regard I was the first and sole inventor thereof, and that the same had never been practised by any other person or persons whomsoever, to the best of my knowledge and belief, I humbly prayed his said Majesty to grant unto me, my executors, administrators, and assigns, his royal letters patent, under his great seal of Great Britain, for the sole use, benefit, and advantage of my said invention, within that part of his said Majesty's kingdom of Great Britain called England, his dominion of Wales, town of Berwick-upon-Tweed, and also in his colonies and plantations abroad, for the term of fourteen years, according to the statute in that case made and provided: His said Majesty being willing to give encouragement to all arts and inventions that might be for the public good, was graciously pleased to condescend to my request; and therefore, by his royal letters patent, bearing date at Westminster, the sixteenth day of December, in the sixteenth year of his reign, of his especial grace, certain knowledge, and mere motion, did give and grant unto me, the said Richard Arkwright, my executors, administrators, and assigns, his especial licence, full power, sole privilege, and authority, that I the said Richard Arkwright, my executors, administrators and assigns, and every of us, by myself, or themselves, or by mine and our deputy or deputies, servants or agents, or such others as I the said Richard Arkwright, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time, and at all times

Mr. Sergeant Adair, for the plaintiff, said, that he was the better enabled to state the subject of the dispute

thereafter, during the term of years therein expressed, should and lawfully might make, use, exercise, and vend my said invention within that said part of his Majesty's said kingdom of Great Britain called England, his dominion of Wales, and town of Berwick-upon-Tweed, and also in his colonies and plantations abroad, in such manner as to me the said Richard Arkwright, my executors, administrators, and assigns, or any of us should in our discretion seem meet; and that I the said Richard Arkwright, my executors, administrators, and assigns, should and lawfully might have and enjoy the whole profit, benefit, commodity, and advantage from time to time coming, growing, accruing, and arising by reason of the said invention, for and during the term of years therein mentioned; to have, hold, exercise, and enjoy the said licence, powers, privileges, and advantage therein before granted, or mentioned to be granted unto me the said Richard Arkwright, my executors, administrators, and assigns, for and during and unto the full end and term of fourteen years from the date of the said presents next and immediately ensuing, and fully to be complete and ended, according to the statute in such case made and provided. In which said letters patent is contained a proviso, that if the said Richard Arkwright should not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be enrolled in his said Majesty's High Court of Chancery, within four calendar months next and immediately after the date of the said letters patent, that then the said letters patent and all liberties and advantages whatsoever thereby granted, should utterly cease, determine, and become void, any thing therein before contained to the contrary thereof in any wise notwithstanding; as in and by the said letters patent, relation being thereunto had, may more fully and at large appear. Now know ye, that I the said Richard Arkwright, in compliance with the said proviso, do hereby describe and ascertain the nature of my said invention, and declare that the plan thereof, drawn in the margin of these presents, is composed of the following particulars; (that is to say:)—No. 1, a beater or breaker of seeds, husks, &c., and a finer of the flax, hemp, and other articles which are to be prepared for dressing, in which (a) is a wheel with teeth, which by acting upon a lever, raises the hammer, (c) the lever, being moveable, upon the centre (d). No. 2, an iron frame with teeth at (a), working against a lower frame with like teeth at (b); this lower frame is firmly connected to a wooden frame, by means of the screws (c, c); the upper teeth are made to act against the lower, by means of the joints, (d, d, d, d). No. 3, is a piece of cloth with wool, flax, hemp, or any other such materials spread thereon, as at (a). No. 4, is a crank, and a frame of iron with teeth at (a), being moveable at the joints (b, b, b, b), by means of a crank, and by a cord turning the pulley or wheel (c); this motion of the teeth (a), works them backwards and forwards upon the cylinder, No. 5, and dischargeth the cotton, wool, &c. from it at (d). No. 5, is the last-mentioned cylinder, which hath fillet cards: behind this cylinder, No. 3, delivers its contents upon another cylinder. No. 6, consists of rollers fixed to a wooden frame, the contents of No. 5, being brought to it at (a), and going through at (b), produceth it a proper size (f); (c, c), are brushes

between the parties, because he had been furnished with experience from a former and incomplete discussion of this question in another place, where the decision had been against the plaintiff. The cause in the court where it was before tried was not understood either by the court, the jury, or the counsel, or the witnesses. It was no imputation upon them to say, that in that stage of the business they neither did or could understand the real question to be tried. This patent is granted to Mr. Arkwright as the inventor of certain instruments or machines which would be of public utility in preparing cotton, flax, and wool for spinning. In what is technically called the specification, Mr. Arkwright fully and sufficiently described the invention. In all inventions, that in which this precaution is of least importance to the public, and in which there is the least danger of an invention, once brought into use, being lost, is an invention for ingenious machines, because from the use of them it must necessarily happen, from their being in a number of hands, that if the inventor wished to conceal them from the public, if he had been ever so artful in his specification, in order to prevent the public getting to the knowledge of them, it would not be in his power to do so,

for cleaning the machine. No. 7, a cylindrical box for twisting the contents of No. 6, at (b); (a, a), are two rollers, one moving the other, between which the contents of No. 6, passeth into the cylinder (b); (c), is a dead pully fixed to the frame; (d), a cord which passing from the pully (c), moves the rollers (a, a).—(F), a wheel; the movement of which is brought from (F), to No. 10, and is fixed to No. 6. No. 8, a machine for twisting the contents of No. 6, in which (d, d), is a frame of iron; (b), a roller, on which a bobbin, (c), is fixed; this is turned the same as No. 7, that is, by a dead pully, or wheel fixed to a wooden frame, at (g). No. 9, a spindle and flyer, being fixed to No. 6, for twisting the contents from (b), in No. 6.—(d), is a pully under the bobbin, which hath a communication by a band to No. 10, at (d, d), it being a conical or regulating wheel, which moves the bobbin quicker or slower as required. No. 10, a spindle, which being fixed to No. 6, at (a), worketh No. 7, No. 8, or No. 9, at (F, F, F), by the pully, (F, c).—(d), a regulator for No. 9.—(b), a socket, having a bolt going through (d, d), and (F, c), to (G), stops or sets the whole going by means of a catch (a), for the pully (G, G), being loose upon the spindle, (o), a lever, moveable about, (k), raiseth or falleth the bolt, (h). In witness whereof, I the said Richard Arkwright, have hereunto set my hand and seal, the tenth day of April, in the sixteenth year of the reign of his said most excellent Majesty, George the Third, by the grace of God, of Great Britain, France, and Ireland, king, defender of the faith, &c., and in the year of our Lord one thousand seven hundred and seventy-six.

“RICHARD ARKWRIGHT.”

for a machine once introduced and in general use can never be lost; it must, from the use and nature of it, be known at the time the patent expires. It is not, however, contended that a plain and intelligible specification is not in every case necessary. If an ingenious mechanic were to make a new invention in clocks or watches, it would not be incumbent upon him to make a specification intelligible to a common cobbler. The person who is to make from the specification must be acquainted with the construction of watches in use before; and it will be sufficient in the principle of common sense, and to satisfy the requisition of the law, if the specification is sufficient to enable a skilful watchmaker, who knew nothing of the invention but from the specification, to add the improvements to the movements that were before in use. That will explain what was meant by saying that the cause was not understood upon the former trial, because it was not then explained what the principles of the machines in use before this invention were, what effects they produced, and what defects this invention proposed to remedy, and what new effects it produced. There was another source of obscurity and mist which existed at the time of the former trial, which was, that after the granting of the patent, both Mr. Arkwright and those who had infringed, had made several alterations in the form and construction of different parts of the machine, so that the model then produced, which was of the machine then in use in the improved state, exhibited an appearance not perfectly corresponding with the drawings in the specification. In the present case there will be models of the machinery before Mr. Arkwright's patent, then an application of the parts of his invention, made exactly after the specification; and it will be proved that that machine will produce all the effects that are required by this invention. It will also be proved that the machine, in its most improved state, with the advantage of little alterations, is substantially the same as specified. (The learned sergeant then described the various models, and compared the parts with the specification). One objection taken to the specification at a former trial was, that it did not describe in what manner the cotton was to be taken off the cloth; but that being part of the machine before in use, it was not necessary to describe it; and the witnesses, who are mechanics, will say, that when they are told that

No. 3 delivers its contents upon another cylinder, that that is sufficient description to any man who knew the construction of the former machine, to understand that the rollers in the former machine must be retained in use. It was therefore perfectly intelligible to any man who had ever seen the former machine. The two rollers are not specified,—no part of the old machine need be specified. The next objection taken at the former trial was, to the cylinder substituted in the place of the old one. The objection was, that if it was worked with parallel cards, the effect would be certain; being spread upon the whole of the web of cloth that discharged it on the other cylinder, there being no card in the intervals between these two fillets of cards, that interval would be choked up with cotton so as to obstruct the movement of the machine, and therefore it was contended, that that description of the specification was imperfect. In answer it is now said that the cotton is to be spread over the whole of the web, and if it is spread in corresponding fillets, the fillet on the machine will take it off; but they say Mr. Arkwright has departed from this, and has made an improvement upon that cylinder. He has done so by placing the fillet of cards in a spiral line round the cylinder. The spiral fillet is not essential, although it is a better mode of producing the same effect. It would be absurd to say, if the patentee or others were able to alter the form and construction, that the patent is invalid. Every mechanic, when he knows the invention, and the effect to be produced, can alter the machine into fifty shapes; and yet, if he retains the principles, it will produce the same effect, although the machine, to the common eye, would appear totally different. The next machine is for sizing and roving; these parts are described in the specification, and may be worked together or separately, but, in point of fact, they are generally worked separately. They say it is not said that the rollers mentioned in the specification are to be set in motion, or how they are to be set in motion. While the rollers remain without motion, they cannot produce much effect; therefore, no man can suppose that the rollers are to remain at rest. Motion must be given to them. There is no occasion to state the manner; it may be by pulleys and a variety of ways well known to mechanics. But, say they, the degree of velocity of these rollers is not

specified. Look to the drawings. One pair of rollers is larger than the others, consequently the velocity of the larger rollers will be greater than that of the smaller. There remains one objection more, that in the machine produced at the former trial, these rollers were pressed down by weights, and there is nothing about weights in the specification. Now it is not necessary that it should be done by weights, it may be done by having the upper roller heavy enough to produce the effect, or it may be done by a spring. But no mechanic employed to construct a machine, would be so ignorant as not to know that the upper rollers must be pressed down upon the others; therefore that is an objection addressed to children. Another objection is, that the machine when produced, had fluted rollers. The effect of that will be to make them draw more than plain ones; but every mechanic knows that; or if they were not fluted, but made rough, they would produce the same effect; in fact, they are frequently used without being fluted, and if you look to the old machine, you will see that they were in that case fluted. The whole roving machine is new, for this operation was done entirely by hand before. The question will be, whether it is sufficiently described. Mechanics will tell you, that the description is so plain, that any one who has seen the specification, might understand it in a quarter of an hour, and could have made it perfectly. Other parts described in the specification are disused, and therefore are not the subject-matter of the present action, they were different modes of producing the same effect. I do not doubt but you will say that the specification is a sufficient description of these machines. We shall call the first men in the kingdom for ability in the mechanical line, who will tell you, that being informed of the machine formerly in use, and reading the specification, they could direct the construction of the machinery in question. We shall also produce several workmen, who from the specification alone, have made the machine, and that it cannot be contended that it is not sufficiently understood and cannot be constructed.

[Several witnesses were then examined on behalf of the plaintiff, showing that the invention was new, that it was fully described; that they as scientific men, could direct workmen in the making of the machinery from the

specification; others stated that they had made the machinery from the specification].

Mr. Bearcroft, on behalf of the defendant, submitted to the Court that this appeared to be a new invention, the application of which to an old machine was not described. On the contrary, the patent was for an invention of a machine or machines, useful in preparing these articles for spinning, and therefore, that the case did not apply to their patent, nor to their declaration; for the new invention will not work alone, but must be applied to the old machine, for which reason he considered he was entitled to nonsuit the plaintiff.

Lord Loughborough.—I have known that objection overruled. In the oilet-hole-work patent* it is for additions to the old stocking-frame, and the stocking-frame is not described. I tried one of those causes last term. The objection made at the trial was, that the description was to be taken from the terms of the patent, which were loose and inaccurate. I was of opinion then, that the description was to be looked for in the specification—the description of what was invented; but upon that I am confident there was no description of the old machine.

Mr. Sergeant Adair.—I can speak of that with certain recollection; and the same was the case with March's patent, two years ago.

Lord Loughborough.—Mr. Bearcroft, will any number of witnesses prove that this machine cannot be made from the specification?

Mr. Bearcroft.—It is extremely difficult to prove the negative, undoubtedly; but whether the gentlemen have proved the positive, will be the question.

Mr. Bearcroft then addressed the jury.—I certainly feel the weight of the case proved on the part of the plaintiff; but I have often seen cases as strong as the present, where a cool consideration of all the circumstances has produced a conviction very different from what might be expected from the first impressions. It is a great libel on the Court who tried the former case, to say that neither judge, counsel, or jury understood the question to be tried. Mr. Arkwright had a great number of counsel who were all useless. Did they not know the case? When was the gross injustice complained of done? At

* *Morris v Bramson*, p. 30.

the end of Trinity term, 1781, the verdict was given against Mr. Arkwright. There were then nine causes depending on the same question. If that cause was not understood, why not apply for a new trial upon that ground? for it is no disgrace to sensible professional men that at a first trial of a cause of this sort they did not perfectly understand it, and the Court would have hearkened to the application. Mr. Arkwright did not apply for a new trial, nor did he try any one of his remaining eight causes. If he thought proper to appeal from that Court to this, why did he not do it recently? It was notorious to the world that Mr. Arkwright brought an action against persons who had stolen his patent, and there was a verdict against him. It was of course understood that he could not support his patent. He lays by four years—have not all mankind had a right to suppose that the patent is invalid? The consequence has been, that a great number of innocent men have set themselves to work, using, it is admitted, this invention, as they had a right to do by the concession and confession, in point of fact, of Mr. Arkwright himself, all of whom must now be totally undone in consequence of Mr. Arkwright lying by, although he was capable of producing (as it will be contended he has done to-day) evidence that would have entitled him to a verdict. Why did he not produce his evidence before? No mortal would suppose he had it. Notwithstanding this evidence, I undertake to prove that in the specification, Mr. Arkwright has not only not communicated his secret in the way that he ought by law to have done, but that he has purposely withheld it from the public. It has been said, that in this matter it is of little importance that the secret is not communicated, as it will be used by a great number of hands, and therefore cannot fail to be handed down to posterity. The observation is true in point of fact, but will not operate in point of law, and therefore is nothing to the purpose; for, if the precedent condition of the patent be a disclosing, *bond fide*, the secret, it is essential to the privilege granted, and without it he derives no peculiar privilege whatever from his invention. Now Mr. Arkwright has not by specification communicated to the public at large this invention honestly and fairly, but *mala fides* appears upon the whole of the specification. It is not calculated to communicate, but to secrete; not to open and explain, but to hide. Why

are pieces of mechanism introduced and jumbled together in the drawing except to create puzzle and confusion. We are told that certain parts of the drawings, Nos. 1, 2, 8, and 9, have nothing to do with the business. Then I wish they did not appear. "Oh, but," say they, "they are original inventions, for some other purpose, perhaps, and therefore he has a right to have the advantage of them in his patent." I doubt the propriety and the legality of jumbling four or five different inventions into one patent.

Lord Loughborough.—I dare say you will see the reason why they jumble them into one patent; it is to save fees. It is a practice common enough; but when the attorney or solicitor-general's clerks are attentive, it is not suffered to pass.

Mr. Bencroft.—Here is a jumble of different instruments for different operations. There never was a man who meant to really explain what he was describing, but that if he put a dozen things together calculated for different subjects, did not tell you which was for which. He jumps from one end to the other of the machine. This seems calculated for no other purpose except to bewilder the understanding. When a patent is obtained, the inventor is bound to communicate the best way he has of performing the work by his invention; if any alteration should be made afterwards, which is only an improvement of the machine, it would be absurd to find fault with withholding that which was not known. In the specification there is not any thing like a fluted cylinder, or a cylinder covered with leather, yet it is very material, and Mr. Arkwright's machines have been so used. The spiral fillet, instead of the parallel one, is important, and it ought to have been communicated. If Mr. Arkwright had improved his principle at the time of obtaining his patent, he ought to have communicated that improvement; and if fluted rollers are used, and are best, it ought to have been so stated in the specification, and not having been done, ought to raise a suspicion that there is a studied design to conceal. I shall produce witnesses of high reputation, and great knowledge in mechanics, who will say, that even with a knowledge of the old machine, and what is derived from the specification, they think that the machine could not be made, and that it was purposely concealed, which latter suggestion will be supported by other evidence. If an artist

means to communicate the secret of his invention, why did he not show a model of the machine to the person he employed to make a description of the invention? But that would not have answered his purpose, for if he had done so, many things would have appeared in the drawing which do not appear in it. A witness will be called who was employed in writing of this specification, who will tell you that it struck him, upon considering it, that it was not as good a description as could have been given. He made the observation to Mr. Arkwright; his answer was, "I do not mean to put it so that it should be understood, for then the French will get it;" or something of that sort. There is another piece of evidence behind. Mr. Arkwright, after his defeat in the Court of King's Bench, applied to the House of Commons, to try if he could not get an Act of Parliament to relieve him. And in his printed case, when stating the reasons of his applying to Parliament, he speaks of the verdict against him in the King's Bench in these words, "At the time Mr. Arkwright obtained his last patent, he justly concluded that his inventions were of great national importance, and conceived that they would be sought after by foreigners to introduce into other countries, he therefore purposely in prevention of that evil (he had almost said national injury) omitted to give so full and particular a description of his invention in his specification, attendant on his last patent, as he otherwise would have done; and in order the more effectually to guard against foreigners, it has been Mr. Arkwright's uniform rule to forbid the admission of them into any of his works." If that is the fact, that he meant not to disclose his invention lest foreigners should steal it, he cannot have his patent; for, at the peril of all that the law requires, he has declared he purposely omitted a full and fair disclosure lest foreigners should have it: if he has done so, there is an end to the patent. It is highly for the public benefit that the verdict should be given against Mr. Arkwright.

Lord Loughborough.—We must never decide private rights upon any idea of public benefit. I must tell the jury that they must shut out that part of the argument. I cannot let a cause between A and B be determined upon consequential reasons that it is beneficial to the public that B should prevail.

Mr. Bearcroft, with great submission, thought it

material in this case; for by the statute against monopolies, no patent is to prevail that is generally inconvenient or against the public trade.

[The learned gentleman then called witnesses to show that the machine could not be made from the specification; also the person engaged by Mr. Arkwright's solicitor to write out the specification, in order to prove that Mr. Arkwright purposely kept back important information.]

Mr. Sergeant Adair.—Enough has appeared to-day to warrant my assertion, that the cause was not understood in the Court of King's Bench. Mr. Arkwright's long acquiescence in the event of the last trial is complained of; but that complaint comes with a very ill grace from those who have been all along profiting by that acquiescence. A man who has once been beaten in a Court of high authority, does not feel himself immediately bold enough to enter another Court. It was natural for Mr. Arkwright to endeavour to procure every ground of evidence before he brought the matter to another discussion; in fact, this action was brought a considerable time ago, and has been brought forward as soon as the attendance of witnesses could be procured. The question in this cause is truly stated to be whether this specification is such as the law requires, in order to support the patent. And it has been admitted as true in point of fact, that a declaration in the case of a machine of this extensive utility, is less necessary than in other cases that are not the visible objects of the senses, but it was added, the law requires it. It is not contended that it is not necessary in point of law, that there should be such a specification as would enable a proper judge of the subject to practise the invention, but a Jury will be less curious and minute in examining a specification of that kind, than where there is no means of preserving that benefit to the public but the intelligibility of the specification. An attempt is made to persuade you that Mr. Arkwright intended to conceal this invention; not to disclose, but to render it more obscure. Now, if it is true that from the general use of those machines it is impossible to keep them secret, Arkwright must be a downright idiot if he had, in order to make his patent void, purposely concealed, by his specification, that from the public which it is admitted it was impossible for him to conceal; for, these machines being necessarily brought

into pretty general use, it is obvious that if there had been no specification at all, or if it had been the most studiously obscure that ingenuity could have made it, long before the expiration of the patent a vast variety of persons certainly could have made it; therefore Mr. Arkwright must know that it was impossible this should remain a secret, and that the only effect of a studied obscurity would be to render his patent void. One part of the plaintiff's evidence, if believed, must make an end to the cause. There is the evidence of five witnesses, who have positively sworn that they made the machine from the specification. Do you or do you not believe those five witnesses to be perjured? If you do, and reject their evidence, still the balance of evidence is in favour of the plaintiff, but if you believe them, your verdict must be for the plaintiff. For if it is true that they, with no other information than a knowledge of the old machine and the specification of the new one, have made the new machine, it is of no consequence if fifty or five hundred men were called to prove that they could not have done the same thing. But there is a piece of evidence which deserves particular attention, the evidence of a man who had been long concerned in the manufactory, and who immediately on Mr. Arkwright's invention coming out, had recourse to the specification, and from thence added all the material parts of the old machine. Is that then a specification unintelligible as Chinese? It was the source of information to which every body had recourse who wanted to steal the invention; and every man who had recourse to it, and had sufficient ingenuity on the subject, did steal it. If, then, one man is to have credit, who tells you that wishing to get the benefit of this, he got the specification from the office, and from thence made the machine, it will overbear the evidence of five hundred witnesses who say they think it could not be done.

Lord Loughborough, after taking notice of some points that had occurred in the course of the trial, merely for the purpose of laying them aside, as foreign to the purpose of the inquiry, said:—There is no matter of favour can enter into consideration in a question of this nature. The law has established the right of patents for new inventions; that law is extremely wise and just. One of the requirements is, that a specification shall be enrolled, stating the nature of the invention, the object of

which is, that after the term is expired the public shall have the benefit of the invention ; but without that condition is complied with, the patentee forfeits all the benefit he derives from the Great Seal. It has been said, that Mr. Arkwright had no right, he having failed to establish it when this cause underwent an examination in another place, in which the event was unfavourable to him. If the question at present were what damages Mr. Arkwright should have received for the invading that right, I would have allowed the parties to have gone into evidence to show to what extent persons had acted upon the faith of the former verdict. But the question now is upon the mere right ; and if the result of this cause is in favour of the plaintiff, the verdict will be with one shilling damages. A future invasion of this right would entitle Mr. Arkwright to an action for damages ; but in the present case they are not asked.

It is said, it is highly expedient for the public that this patent, having been so long in public use after Mr. Arkwright had failed in that trial, should continue to be open ; but nothing could be more essentially mischievous than that questions of property between A and B should ever be permitted to be decided upon considerations of public convenience or expediency. The only question that can be agitated in Westminster Hall is, which of the two parties in law or justice ought to recover. There are many objections that may be taken to patents ; but the only objection in this case is, that the specification is not so intelligible that those who are conversant in the subject are capable of understanding it, and of perpetuating the invention when the term of the patent is expired. The clearness of the specification must be according to the subject-matter of it ; it is addressed to persons in the profession having skill in the subject, not to men of ignorance, and if it is understood by those whose business leads them to be conversant in such subjects, it is intelligible. The first witness described the machine in use before the plaintiff's patent was obtained, which was simply applied to the purpose of carding ; all beyond that purpose that is contained in Mr. Arkwright's invention, I take to be perfectly new. The next witness was the person applied to by Mr. Arkwright to draw up for him a specification. He says positively, that the instructions given to him were not to conceal, but to make the description plain ; and Mr. Arkwright

*Persons to whom
Spec'n is addressed
1 Carp. 50*

relied on his skill and capacity for making that plain which Mr. Arkwright had communicated to him in the best manner he could. Mr. Wise says, he did actually make a machine from the specification, without any previous knowledge of the old machine, except a cursory view. Thomas Wood says, he never saw the plaintiff's works till last September. That about the time the patent came out, he got a copy of the specification from the office, and from that copy actually made the machine; and from the specification applied the parts of the old carding-frame, and that for three or four years they had been constantly in use. He says, fluted rollers were not new, that they had been used by him years ago. William Allen made a model of the machine from the specification; he had never seen a carding-engine, but it was described to him by the person who brought him the specification. William Whitford, after considering the specification about an hour, undertook to make the machine. The old machine was described to him, and he also made the machine. Both these witnesses said, that the conversation was perfectly fair, and that they were not led by anything said to them. This is the evidence on the part of the plaintiff; and that evidence, to be sure, affords a very strong body of proof for the question being whether the specification is intelligible or not. The man who drew the specification, says, he was desired to make it as plain as he could, and he swears that, to the best of his judgment, he did endeavour to make it plain, that is, so far as to the fairness of the instruction. Then he and three other persons of skill, swear that it is so intelligible to the apprehension as to convey to them a clear idea of the manner of making the machine. Then five persons swear that they constructed the machine from the specification alone; and one of them divers years ago, clearly from the specification alone, made the very machine to produce the very effect produced by Mr. Arkwright. The comment upon this by the defendant's counsel is, that these were trials made by the plaintiff's desire, which should have been made with more caution, the persons should have been talked to before witnesses; but I cannot conceive that any evidence would have added force to the testimony that is given. Supposing Mr. Arkwright, in making these trials, to have made them in such a manner as to evade all suspicion, with the best precautions that the ingenuity of man could suggest, still

nothing more could be attended to than the positive testimony of the persons who gave the information, and who received it. Now they swear that no other person gave them information, and the person who gave the information swears that he gave them none but fair information; and one witness swears that he had no information at all, but took it on himself, taking a copy of the specification, and using it. Mr. Bearcroft has called witnesses, many of them of undoubted character and skill, who say, that from the specification they should not be able to make the machine; and most of them have said that they think it not probable that the person who drew the specification meant to describe the invention. Now that is nothing more than a corollary from their own opinions, because it is not intelligible to them. The last witness is the attorney's clerk, who prepared the formal part of the specification and engrossed the whole of it, and I think his evidence does not amount to a great deal. He says, that when he observed to Mr. Arkwright that the specification was not so clearly drawn as he thought it might be, Mr. Arkwright's answer was, that it was not lately usual to make the specification too plain, lest the invention should be carried abroad, and seemed to regret that the specification was not locked up for fourteen years as a matter of public convenience; but he added, he believed it would be sufficient for the security of his patent. A good deal was said in the opening of the defendant's case, that Mr. Arkwright meant to understate his description, so as to keep the world in ignorance of his invention, and that though he might do it to keep it from the French, yet that he had overshot himself, and had kept it from the subjects of this country, that he had not complied with the grant, and must stand to the consequence. Now unless a great degree of folly indeed is ascribed to Mr. Arkwright, you cannot apply that idea to his mind. He must necessarily put people in possession of it, and it is plain, by the conversation he held with the attorney's clerk, that he thought the specification was sufficient, according to the terms of the patent, that he should make his invention sufficiently known. Having stated the whole of the evidence, I cannot conclude without saying, that this case turns on a very short point, there is no matter of argument in it; it is simply whether you believe five witnesses who have sworn to a positive fact, for if their

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testimony does not obtain effect with you, it can only be on supposition that they are every one of them perjured, because the reasoning is only this, that that which five men have done, is possible to be done:—therefore the only question for your consideration is, whether these five men have made a machine? Each of them come and positively swear they have done it, and if they have not done it, from such information as they state themselves to have received, they are each of them perjured. Therefore the single question is, whether you believe these five witnesses are perjured, or that they speak the truth. According as you are of opinion, one way or the other, you will find your verdict for the plaintiff or for the defendant.

Verdict for the plaintiff.

THE KING *v.* ARKWRIGHT.

In the Court of King's Bench, before Mr. Justice Buller, June 25, 1785.

THIS was a writ of *scire facias* to repeal a patent granted 16th December, 1775, to Mr. Richard Arkwright, for an invention of certain instruments or machines for preparing silk, cotton, flax, and wool, for spinning.

The allegations in the writ of *scire facias* were—

1st. That the grant was prejudicial and inconvenient to the King's subjects in general.

2d. That the invention, at the time of granting the letters patent, was not a new invention, as to the public use and exercise thereof within England.

3d. That the same was not invented and found out by the said Richard Arkwright; and,

4th. That the said Richard Arkwright had not, by an instrument in writing, under his hand and seal, enrolled in the High Court of Chancery, particularly described his invention, and in what manner the same was to be performed.

Mr. Bearcroft, on the part of the prosecution, said, that a case of greater importance, of greater value to the individuals disputing, and to the public in general, was never yet tried in a Court of Law. Upon the part of the defendant (*Mr. Arkwright*) it is a question of great property, for if he is right and well founded in his patent, it is of such value to him, that it will produce him great

sums of money. Upon the other hand, if the patent has no validity in point of law, and yet should it be determined that it has, the consequence will be that some individuals, well worthy of consideration, will be losers of sums much greater than any Mr. Arkwright can assume to be interested in, great as they are. There is also a matter of infinite importance behind, for if the determination should be for the validity of the patent, it will endanger the loss of the most valuable manufacture that this country knows, viz., the manufacture of cotton. The first thing to be attended to, since these proceedings are totally to render void a patent, is the nature of that patent, and the machine from which Mr. Arkwright has derived great advantages, and of which he contends, by virtue of this patent, he has the sole use and property, during the fourteen years for which a certain Act of Parliament, in certain cases, allows a monopoly to be granted by the Crown. Mr. Arkwright is recited by this patent to have suggested that he had invented certain instruments or machines, which he conceives would be of public utility in preparing silk, cotton, flax, or wool, for spinning, and that the same instruments or machines were constructed upon easy and simple principles, very different from any yet contrived. In truth, so far is this from being the true description of the machines, that they deserve a description the very reverse of this, for, in fact, they are not materially different from some before contrived, on the contrary, they are the same. It will be impossible to understand a step of what remains behind, without first having a general acquaintance with the nature of spinning cotton, and of the process towards the spinning of it, together with an acquaintance with the patent machine of Arkwright that is to perform the operation for preparing for that spinning. The various manufactures which are performed in and about Manchester are fabrics so ingenious, beautiful, and useful, that they have all the qualities that can recommend them to human nature; the basis and principle of all those manufactures are the fineness and excellence of the spinning and twisting of the cotton-thread of which they are composed; therefore every part of the process, towards the making that fine and excellent cotton-thread, is of the utmost importance to the kingdom in general. To produce a fine thread the cotton must be carded, this operation used to be performed by hand, and took up a great deal of time,

and of course was very expensive. The next process was what the manufacturer called roving; roving means taking the cotton, after it is carded, and performing the operation of spinning by a wheel making it into a coarse yarn-thread. This coarse thread or roving must be re-spun to make it fine, and give it proper twist and that sort of consistency which is the foundation of the excellence of the Manchester manufactures; this, too, used to be done by hand. This spinning is the last and important finishing. If, therefore, a machine could be found out that in less time, and consequently at less expense, and in a better manner, could contrive to spin a second time the first coarse spinning called roving, it most undoubtedly was an improvement, and an invention of great value and merit, and of great importance to the public, and for which the inventor was fairly entitled to all the reward that can be derived from the monopoly permitted by law. Now Mr. Arkwright was in possession of a patent for that operation of spinning, which makes the rovings into fine thread, which patent expired upon the 3d July, 1783. That patent machinery, which was excessively ingenious, should be thoroughly understood, for on that a great deal turns; and that alone, when truly understood, is sufficient to overturn this patent, and make out one of the propositions alleged upon the *scire facias*, namely, that this patent of 1775 was not a machine, that at the time was a new invention. (Mr. Bearcroft then explained, by a model, the machine for spinning, according to Mr. Arkwright's first patent.) That machine would either make the rovings, or the spinning from the rovings; the roving, in truth, is the first thread in the business, but it is the coarse one; but take the roving back again when it is made, and instead of the carded cotton let the roving go under the operation a second time, and it comes out a fine thread. Both the roving and spinning produce threads, the one a coarse thread, and the other a fine one, equally performed by that very spinning machine (pointing to the machine made according to the expired patent). Having given the idea of the machine for spinning, and shown that it will operate to produce either a coarse or a fine thread, the next thing will be to show the sort of patent which is in question. The patent for spinning expired in 1783, and Mr. Arkwright had lost a profitable monopoly. He was unwilling to part with it, if by any means he could

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contrive to keep up the monopoly in another shape. Upon that idea he took every step in the business. Mr. Arkwright, upon the expiration of the patent for spinning the fine thread, could no longer in those words enjoy the thing at all; but as the cotton manufacture depends on the carding, roving, and spinning, if he could contrive to get a patent, and to gull the public to submit to that patent as a new invention for the roving and the carding, it would answer his purpose.

[The Learned Counsel then described the machinery constructed under the present patent, according to the specification,* and by models performed the processes of carding and making rovings therefrom.]

By an Act of Parliament in King James the First's reign, which put an end to great and growing evils that the world at the moment very properly complained of, it was thought right to reserve a power of monopoly that might be made use of for the benefit of the public; and it was thought, that if a reward to ingenious men, who should study to invent any matter of great use to the public, was given to those inventors, in shape of a monopoly for a given time, it would be a benefit to the public. That was the idea of the Legislature, and, of course, there was a power given to the Crown to grant patents for new inventions for a term of fourteen years. A patent is granted on the conditions that the patentee shall disclose the manner in which he performs his invention, in an honest, fair, and plain way, so that the world at large shall be in complete possession of all his knowledge of the subject at the end of fourteen years. It is likewise an express condition, to make a patent have any operation, however new, ingenious, and excellent the invention may be, that it should not have an effect prejudicial and inconvenient to the King's subjects in general, in other words, to the public. The first objection, and the most serious to the public, is, that this grant is prejudicial and inconvenient to the public in general, as it endangers the loss to this country of a manufacture which before was the most envied and coveted of any we can boast; and not only endangers the loss of it, but tends to draw off from the industrious exercise of this business in this country, a multitude of

* For the specification, see page 38, *ante*.

labourers who support themselves to the benefit of the public. Can anything be more prejudicial and inconvenient to the subject, than a patent to a private man which endangers the loss of a trade of such importance to this country as a nation? If this patent remains good in point of law, it prevents every individual from the preparation of cotton for all cotton manufactures of this country. Other countries at this moment, and for years, have had their eyes turned upon this, with an endeavour, if they can, to take from us our trade and manufactures, and this will have the effect of it; upwards of 30,000 people will be robbed of their manual labour in this business; and people will be ruined who, upon the strength of what has passed, have laid out 300,000*l.* in this kind of business. If it be asked, why did they invade another man's right?—If they do it, they do it at their own peril. The answer is this:—In 1781, Mr. Arkwright was the plaintiff in nine causes that he brought here for invading this patent, and using those machines without his license. One of these actions was brought against Colonel Mordaunt. An objection was taken, that if this was a new invention, Mr. Arkwright had not fairly communicated it by his specification, but had absolutely contrived to hide it. Upon that simple ground, to the perfect satisfaction of the judge who tried it, the jury found that the patent was of no validity; for Mr. Arkwright, instead of disclosing his invention, did all he could to hide and secrete it; and upon that ground, a verdict was given for the defendant, Colonel Mordaunt: and Mr. Arkwright imagined the same objection would be admissible in the other cases, though the cases were somewhat different in their nature. There was an end of the patent from that time, and all the world had a right to take it so. From that time Mr. Arkwright never dared to raise the question again, till he found a disposition to go into the Court of Common Pleas, in Hilary Term, 1785, where he obtained a verdict in favour of the patent. But now to the verdict of 1781.—Did he dispute it? Why did he not apply to the Court for a new trial? Upon such a subject as this there is a great inclination in a Court to grant a new trial, because the Court will be cautious upon a subject of this kind; and if the Court would not grant it, he might have granted himself a new trial; he might have granted himself eight new trials if

he thought proper. But he never applied for a new trial,—never tried any one of those eight causes. What had the world at large to conclude from that? What are notorious trials in a great Court, and what is to be the effect, if the eyes of the world are to be turned upon a decision, and the party interested to dispute the rectitude of that decision submits to it for three years and a-half without a struggle? Has not all mankind a right to conclude that he had given up all thoughts of the validity of his patent, and that he had totally lost it? But he was satisfied of the fact himself, for instead of applying to a Court of Justice, he applied to the House of Commons, in order to set him right in respect to the consequences which he submitted to in a Court of Law. His application to Parliament was for a prolongation of his spinning machine,—that was what he wanted. He gave up all ideas of the validity of the present patent, and stated, in terms, he had purposely avoided describing his invention by his specification, out of public spirit, because the French should not steal it. "The reason," says he, "I did not disclose it fully, is, because foreigners would have understood it;" which is the same thing as if he had said, "I meant it should not be understood." Did he so? Then there is an end to the patent. The second objection is the allegation, upon this *scire facias*, that this invention, at the time of the letters patent, which was the 16th December, 1775, was not a new invention at the time; all the parts that go to compose it, with very little or no essential difference, existed, and were used, and were applied to the purpose. The larger cylinder that performs the operation of carding, was in common and constant use; the smaller cylinder, for the purpose of taking off the carded cotton, was in constant use, covered all over, not only with parallel, but spiral carding fillets: that which he uses now is the spiral one. The operation of the crank that takes off the cotton from the second cylinder, is no invention of Mr. Arkwright's; it is no new invention; all its parts and operations were in use before, except the rollers, and they were not new at the time of the date of the patent. Roving is spinning, and spinning is roving, and all is performed by the rollers; and it is either one or the other, as you put the rough cotton or the thick thread. In the first place, it is roving, or thick thread; in the second place, spinning, or the fine thread.

But if this was a new invention, it was not Mr. Arkwright's; it was the invention of a very poor man, now alive, who will be produced. He did it; but he was poor, and could not carry it into execution. He communicated it as a secret to another man, who sold it to Mr. Arkwright; therefore it is not Mr. Arkwright's invention. The last objection, which is a very important one, if not the most important in the business, is, that he has not fairly disclosed his invention. He states his own case, rightly and truly, in the House of Commons, that he did not disclose it by his specification. No. 1, the first article, describes a beater, or breaker of seeds, husks, &c., and a finer of the flax, hemp, and other articles, which are to be prepared for dressing. Now as that is the specification, and the disclosure of the invention for which this patent is granted, it may be expected that this hammer is necessary for the performance of the work. It is never used, and is put in front of the specification for no other purpose but to puzzle and confound. This hammer is not only useless, but it is mischievous. If you put cotton under this hammer, and work the wheel about, you will absolutely spoil it for the operation of roving and spinning. We should be late indeed in the discoveries of this country, if we were to resort to Mr. Arkwright, in the year 1775, for the invention of the lever with a hammer at the end, to be turned by a wheel upon a centre. No man can tell who was the inventor, it is so old and well known. No. 2, is an iron frame, with teeth, working against a lower frame, with like teeth. This lower frame is firmly connected with a wooden frame, by means of screws; the upper teeth are made to work against the lower by means of joints. So here are artificial teeth, but for what purpose, except that of confusion, cannot be shown; for in fact, it is not, nor ever was, applied in this business. Now we come to something that is meant to describe the thing you have seen,—but here, too, Mr. Arkwright is exceedingly sparing of his disclosures,—the cloth with the wool upon it, which is called the feeder. There is in the centre of it a little roller, upon which it turns round with firmness, without which the cloth and cotton would get within the wheel; but that roller, which is the most essential part of it, is not pointed out in No. 3. In explaining a complicated machine that was to perform a

process in a manufacture, if it was meant to communicate it to other men, the course would have been to speak of that part of the machine which first begins to work; then to speak of that which succeeds in the next part of the operation; and so on to the end. Method and order throw light upon any subject; therefore it was not for Mr. Arkwright's purpose to proceed in any order. The next thing to the feeder and the rollers is a very important part of the machine,—it is a great carding cylinder; of that not a syllable is said in the specification. Why? "Oh," say they, "we have no occasion to describe that; that was well known and common in the trade: we apply our new invention to that old carding frame and cylinder." Do they so? Then it is a flat contradiction to the patent; for it ought to be for the application of that novelty, to produce a new effect by its application to the old machine, that should be stated; but who is to know that the carding cylinder is not the novelty as much as any other part?—there is no statement one way or the other. After the cloth, which is the feeder of the cotton, the next important parts of the machine are the rollers. Do they not occur next in order? No—that might have explained the thing, and put people in mind of rollers and the former patent for spinning,—but for the purpose of confusion in general. Those that ought to occur as No. 4, after No. 4, are postponed to No. 6; and instead of speaking of them, the crank with teeth is mentioned; that is No. 4, but that is not the natural place for it. No. 5, in the specification, is described as a cylinder; behind this cylinder, No. 3, delivers its contents upon another cylinder. In the specification, it is a cylinder with parallel fillets, but the spiral fillets are the best; they use them: then why insert parallel ones in the specification? Then we come to the rollers. He certainly could describe them, for he has described them in his first patent; he thought it necessary to describe them then. Why not now? Because, if he had described them, he must have described them in the same manner; and then it would be seen, that it was the same thing as his former patent. We then come to No. 7, which is the can upon the roving machine; but there is nothing new in that can, except a pair of rollers: it was like the first expired patent, and, like the rollers, is put for no other purpose than to confound and puzzle, and to hide the

identity of the thing. It produces no new effect, and at this moment, those that use Mr. Arkwright's machine, most frequently use it without the can. No. 9, is no new invention; but No. 9, and No. 10, are exactly like No. 1, and No. 2; that is, they have no relation to the subject, and never were used at all. No. 8, is not used at all. A witness will be called, who was actually employed to write out the specification by Mr. Arkwright, who was so struck with the lameness of the specification, and its inadequacy to convey the idea of a new invention, that he said, "I don't think this will do; nobody will be able to do it by this." "Never mind that," said Mr. Arkwright, "I don't mean they should;" or to that effect. This is the nature of the case; and the evidence to be produced will undoubtedly establish every one of the objections stated—namely, that it is a great inconvenience to the public.

Mr. Justice Buller.—It is a question of law whether it is prejudicial or not. If it was thought necessary to attack the patent upon those general words of the Act of Parliament, it should have been stated in what respect it was so attacked, and the fact would then have been put in issue. This was a surprise on the party; he could never come prepared to answer it.

Mr. Bearcroft.—It was not a new invention at the time the patent was granted; it was not a new invention by Mr. Arkwright at all; and he has not disclosed his invention.

[The Learned Counsel then called evidence, every part of which being remarked on by the Learned Judge in his summing up, it will not be necessary to repeat it here. His Lordship refused to receive evidence on the first point of the *scire facias*, viz., "That the grant was prejudicial and inconvenient to the King's subjects in general."]

Mr. Sergeant Adair, for the patentee, said, if there were ever a case which called for a cool and deliberate hearing, and a minute attention to both sides of the question, it certainly was the very important cause to be then decided. What passed upon former occasions, in this Court or any other, was nothing to the purpose, and ought to have no influence upon the verdict. Upon both the former trials the single question was, whether Mr. Arkwright had sufficiently described his invention or not?

The utility or originality of that invention has never been disputed till this day. That the continuance of the patent may produce some inconvenience to those engaged in the same branch of manufacture, is not to be denied, but that is an inconvenience which the law has recognised, and which they must submit to, if the party is entitled to the protection of the law, because the law has thought proper to give this encouragement to ingenious inventors. If no benefit was to be derived by the inventor from the exercise of his ability and ingenuity, for the loss of his time, and the expenditure of his fortune, who would be sufficiently public-spirited to devote their time and labour, for the benefit of the public, in a thing that the public were immediately to derive a benefit from, and for the sake of the public to ruin themselves and families. But in order to prevent that discouragement, the wisdom of the country has thought fit to hold forth that encouragement to men to give their time to the improvement of the manufactures of the country; and they could not have framed one better adapted for the purpose, because the reward is proportioned exactly to the ingenuity. If the invention is worth nothing, he will derive no profit; if ingenious and valuable, he will derive an adequate profit during the time, and the public will receive the benefit in reversion. The questions to be tried are these; First, whether this is not a new invention? In the next place, whether Mr. Arkwright is not the inventor? And next, whether he has sufficiently disclosed the nature of that invention, to secure the benefit of it to the public after the expiration of his patent. With respect to the two first, it will be necessary to consider the principles upon which those questions ought to be tried, and a precise idea should be formed. What is a new invention within the meaning of that word, as applicable to improvements in the manufactures of the country, or upon machines intended for that purpose? It is not now to be decided whether a new invention or improvement, produced to the public, and made the subject-matter of a patent, might be all, or perhaps any of the constituent parts of the machine, new, for the more important part of the mechanical powers have been discovered many centuries ago, therefore if things are to be traced to their source, to their first constituent parts, no man living could produce that which would deserve the name of a new invention.

It is the combination of those parts in the machine, and producing the effect, that alone constitutes a new invention; in other words, that is a new invention which consists of a new combination of old parts, and that is a new invention which consists in a new combination of old principles. The evidence that has been produced, has been calling witnesses to prove that in respect to each particular part of the machine it has been in use before Mr. Arkwright's patent, but not one witness has been produced who ever saw such a machine as Mr. Arkwright's before the date of his patent, or who has proved that the combination of those parts has been applied to the purpose, or that the work to which they have been exercised, has ever been done before by any individual, or that the carding-engine and the roving-machine have ever been used before as applied to the purposes of Mr. Arkwright's patent. With respect to the crank, No. 4, several witnesses have said that part of the machinery had been used before the date of Mr. Arkwright's patent; but some doubt has been left upon their testimony, which will in some degree be cleared up when the witnesses for the defence come to be heard. Certain it is, the application of that crank was originally made by Mr. Arkwright; but whether the evidence, that before he had obtained his patent, the discovery and application of this crank had gone abroad, that it was used by others and applied to the purpose, will amount to such a public use and exercise even of that part of the machine as would be sufficient to deprive Mr. Arkwright (who certainly was the inventor) of the benefit of his patent, is a question of law. The mere circumstance of this use or application of the machine having been found out or known to others before the date of the patent, is not sufficient to avoid that patent. The question to be tried is not whether this was a new invention strictly, but whether it is a new invention as to the public use and exercise thereof? The man who first brings his invention to that degree of maturity as to make it capable of general use, he alone is entitled to the patent; and however others may have tried experiments, however they may have, from time to time, even worked experimentally in their shops, yet if not applied to the general purposes of manufacture, Mr. Arkwright will be entitled to a verdict. [The Learned Sergeant then, in a similar manner, commented on the

other separate parts of the carding machinery, which were said to be old.] It is a notorious fact that the spinning patent never paid for itself, nor indemnified Mr. Arkwright for the construction of those machines, because of the modes in use at that time for preparing cotton from the coarse state, which employed much time and many hands to prepare it for spinning, and the spinning-machine could not be applied to that extent and celerity, as it might have been if this discovery had been made which is now pretended to be contemporary with that. Is it possible to believe that Mr. Arkwright's new patent for roving was nothing more than an intent to continue the spinning patent? If the spinning patent machine was equally applicable to this purpose, is it to be conceived he would have been so long without reaping the benefit of this useful invention? Had Mr. Arkwright known that at the commencement of his spinning patent, he could have applied that machine to the purpose of roving, and could have had a complete machine for carding and roving, it would, in all probability, have produced by this time to Mr. Arkwright all those profits which he has never received but in idea. The fact is, it never occurred to him, or any body else, that those machines were applicable to the purposes which have been since discovered. If the invention is new, as to the application and exercise of the machine and the introduction of a new part, or the application in a different manner to produce a different effect, that is, to all intents and purposes, a new invention, though some parts were used in the old machine. It is alleged that the roving-machine in its parts consists of No. 6 and No. 9, which are the same, as they say, with those in the spinning-machine; supposing they were, is it contended the roving-machine, which consists of No. 6 and No. 9, are the same parts of the machine with or without No. 7? They are parts of the machine, though not pretended to produce an effect with which the spinning-machine has anything to do; then it is an answer to say a combination of those parts has produced a new machine, applicable to a new purpose. There must have been some reason that this evidence in defence of these encroachments has been hitherto concealed till four years from the expiration of the patent; if, therefore, Mr. Arkwright's acquiescence under one verdict is talked of, what must be thought of the acquies-

cence of gentlemen possessed so many years of the most decisive evidence to annihilate Mr. Arkwright's patent? They have put themselves to the expense of thousands of pounds in litigating the other stages of the cause, and it is only to-day they have found out that evidence, which is stated to be so material as to make an end to the cause. Mr. Arkwright stands in this critical situation, if any one of these issues is found against him, it is the same as if the whole were, they all equally go to the invalidity of his patent; he therefore has the labouring oar in the highest degree. Where a man would, by the authority of the crown, entitle himself to an exclusive benefit for a limited time, care should be taken that the secret should not fall with him, but it should be recorded, and remain for the benefit and free exercise of the public after the expiration of that time: that is the meaning of the law that requires a specification, therefore the language of the law and common sense is, that that specification is sufficient which does preserve the benefit of the discovery to the public. Another circumstance which should be attended to, is the different subject matter for which patents for new inventions may be granted; and there is none in which the minute exactness of a specification is so little required as in that of an improvement in machinery, for the moment the machine is brought into use, the inventor not being himself the maker, the workmen employed in making those machines, and the workmen employed in the manufactories, are all possessed of the secret. In this specification, the nature of the thing secures the benefit of the public; for it is an absolute impossibility that the machine can be brought to perfection, and remain in use for fourteen years, and the construction of it remain a secret at the end of the term. It is not contended from that principle, that those specifications that are necessary should not be made in the case of a machine, or that the specification should be wholly unintelligible, or that the party has there complied with that requisite. It is admitted that a specification that cannot be understood, is the same as no specification at all; but in the construction of a specification of a machine, common justice requires you to be less critical and exact than in a specification of a machine or instrument which must die with the author of it. The reason furnishes an answer to the imputations thrown upon Mr. Arkwright of a fraudulent and studied conceal-

ment of the invention, which is, the absolute impossibility of such machines being kept a secret. He must be below the common rank of men to be guilty of so gross an absurdity as to destroy his own patent, by endeavouring to conceal that which all the world knows is impossible to conceal, from the nature of the business. Then as to the degree of perspicuity, it is not only not necessary, but not proper that it should be so described that any man, without a previous qualification but that of being able to read, should understand how to make the machine. If that was the meaning of the law, all those mischiefs, which there has been some evidence to show did suggest themselves to Mr. Arkwright's mind, would arise from the invention going abroad; and perhaps our enemies, during the time it was locked up from public use here, might make use of it, which would be injurious in the strongest degree; that is not, and ought not to be required by law. What the law requires is, that the specification should be such as to enable a mechanic of reasonable general knowledge in his profession, and thoroughly acquainted with the machines before in use, and all the prior improvements of them, with that previous knowledge, and the assistance of the specification, to make the machine; that is the true standard upon which the specification should be tried: and if the specification is intelligible to those that ought to understand it, whose business it is, and who have been bred up in it, and know the effects, and the methods applied before, it is intelligible according to law and sound policy, and is all which the law requires.

As to another part of the case, there are in this specification several distinct parts of machinery which certainly do not now compose any part of the machine. It will be shown why they were so introduced, although it was said to be only to puzzle and perplex, and render the specification more obscure. The subject matter of the patent is, for a method, said to be a new invention, and of public utility, in preparing cotton; not cotton alone, but silk, cotton, flax, and wool for spinning.

No. 1, it is said, can be introduced for nothing but to puzzle; that it is not only useless, but mischievous if you were to beat cotton with it: but the patent is not confined to cotton, and who has not heard of the beating of hemp? It is a thing in constant practice; and it is necessary that

hemp should be beaten before it could be carded, or any thing else done with it.

No. 2 was a machine distinct in its nature from the other. It occurred to Mr. Arkwright that it might be made useful in drawing out and stretching the fibres of the flax, hemp, &c. previous to being carded; but the card is afterwards found to answer every purpose intended for that: that has, in fact, been laid aside, and is not now in use. But it is not law that a man is under the necessity of continuing the use of every circumstance he shall specify in his patent, or be in danger of losing his patent. A man applies for a patent frequently in the infancy of an invention: must he put every thing in it that appears useful to be applied? Does the law require, if upon repeated experiments, and better knowledge, they find any parts may be more conveniently laid aside, that by so doing they forfeit their patent, which was more complete without them?

As to Nos. 8 and 9, the objections appear to arise from a total neglect or forgetfulness of the terms of the specification itself, for they stop at No. 9; they totally forget that No. 10 exists, much less the manner in which it is described. No. 10 is described as a spindle, which being fixed to No. 6, worketh Nos. 7, 8, or 9, by a pulley. No man can conceive that Nos. 7, 8, and 9, are to become parts of the machine at once.

Having replied to those objections, it is contended, that the rest of the specification contained a complete and full description, and is intelligible to those that are mechanics, and acquainted with the machines formerly in use: to such a man, in point of law, this specification is addressed.

No. 3 is described to be a piece of cloth with wool, flax, hemp, or any other such material, spread thereon. Now, it is said, this is an exact description of the old feeder; but that which is not explained by words, is explained by the drawing: it must not be a flat piece of cloth, but a piece of cloth rolled up, of which the drawing conveys the idea; the cotton is not to remain flat as before, but to be rolled up.

Another objection to it is, that it is bad; because, from the drawing, there is no axis or roller which it is rolled round. But if it is true that this cloth could not be used unless it was rolled upon a roller, every man who was of

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that opinion would have rolled it upon a roller, notwithstanding it was not so specified; it would not, therefore, be right to avoid a specification on that account; but the roller is not necessary, it may be done without any roller at all.

The next part of the machine is the crank, No. 4; not one of these witnesses pretended ignorance upon that subject, because no mechanic that sees the drawing could doubt about it; no smith is so ignorant that he cannot make a crank. They say, that don't stand next in order in its application to the machine, though it stands next in number: but that objection is as frivolous as any that can be made. The description in the specification says it works backwards and forwards upon the cylinder No. 5, not No. 3, and discharges the cotton, wool, &c., from it.

The next is No. 5, the last-mentioned cylinder, which has fillet cards instead of the horizontal cards before in use. Two cylinders were before in use: when you know that, and are told that No. 5 is a cylinder from which the cotton is to be discharged, could any man of common sense doubt that that is to be the second cylinder and not the first? It also describes fillet cards; and it is said that the machine now used has not such cards, but has spiral fillets. The spiral fillets are pretty generally used, and have been used for some time back, and are certainly an improvement. It is true No. 5 describes parallel fillets, and not those now in use; but it describes one that acts upon the same principle, and will produce the same effect, but in a less improved state, to that which subsequent ingenuity has made it.

If this is a sufficient description of the invention, and will produce the effect desired, that is sufficient. Whether it is a subsequent improvement made by the inventor himself, or any body else, it will not affect or have a retrospect to that specification; the specification need only describe the principle upon which it is to act. It would be hard indeed, and counteracting the intention of patents, if that was to cramp and restrain him from making further improvement, lest the specification should be found defective; the subsequent improvement by Mr. Arkwright or others would not vitiate the specification, if it contains the description of a machine that will answer the purpose. It is said, if the first machine that used the cotton was spread all over, it is clear the fillet cards took

no more than their own breadth, and the intervals were choked up. That is true, if they were to spread all over; but who told them it was to be spread all over? If they make a machine with such fillet cards, would any man spread it all over for any other purpose but to choke the machines? Could any man be so ignorant to suppose the fillets could act beyond their own breadth? Is there any thing in the specification which directs them so to do? If it did, it would be obscure indeed: that, therefore, is no objection to the fillet cards. It will answer if it is spread its own breadth, which is sufficient for all the purposes of the manufacture; but in the drawing of the axis of that cylinder, it is of a very extraordinary length, not cut off just where it should be inserted in the frame: it is of a length that leaves room for the cylinder to be moved backwards and forwards in a direction parallel to its axis. Now the mechanics who will be called in evidence will say, that that length of axis would necessarily suggest that idea to their minds, if they intended the cloth to be covered its whole breadth; and that if it should be taken off the cloth, it should have the length of axis which would allow for its being taken off, and that is conveyed by the drawing. It will perform that effect, and is, perhaps, a better method than that which is but just hit upon, and carried into use, of the spiral fillets which card off the whole, and enables you to spread it the whole breadth; but if it is a better way, and more commodious by the spiral cylinder, notwithstanding the finding out those principles afterwards, no patent can restrain an inventor from using it.

The most important difference of all the others between this machine, now improved and perfected by Mr. Arkwright, for which new improvement he has got his patent, and the one in use before that, is—by the old one you take off the cotton by short lengths, which rendered the manufacture much inferior, and *this* takes them off by one continued operation, the carding going on as long as it should be fed with cotton; that stands undisputed with Mr. Arkwright.

Having now gone through Nos. 3, 4, and 5, which, together with the parts of the old machine, will form a complete carding machine; therefore the specification is sufficient to explain it, and the application of it to the old machine. The want of direction of that application has

been complained of. Now there is an expression which does most clearly and indisputably point that out; it is this: No. 5 is the last-mentioned cylinder which has fillet cards, "behind this cylinder (to wit, No. 5) No. 3 delivereth its contents upon another cylinder." Now can any man who knew the former machine consisted of two cylinders to a feeding machine, and delivereth its contents upon one of those cylinders, and is told in the new machine, No. 5, the new cylinder and feeding machine delivers its contents behind it upon another cylinder,—can any man, in his common senses, doubt that that other cylinder is a new cylinder? Then the place of the new cylinder and the old cylinder is correctly ascertained; for No. 4 describes the crank as discharging the cotton from the new cylinder; it fixes the place of that cylinder to be the last of the two, not only the use, but the locality of both those cylinders are therefore ascertained to every man of common understanding.

[The Learned Sergeant then, by a machine worked in court, showed that the cardings by the old method were taken off in short lengths, and that the fibres did not give the length even of those cardings, but were transversed; whereas the fibres of the cotton carded upon the new machine were all longitudinal. He next showed the operation of the cylinder with the fillet cards and the crank, whereby the cotton came off in continued lengths from the fillets; and contended that any man of common sense would say it was a complete description, because No. 3 is the feeder which feeds it with cotton, No. 5 receives the contents of the carding machine, and the contents are discharged from No. 5 by the crank, after it is carded, which is the last part; and that it was clear, from the description of those numbers, that no man would look for any part of the carding machine without.]

The next thing is the roving machine, which produces the two operations of sizing and roving, which is the second operation. That machine consists of Nos. 6, 7, and 10. The reasons why no man upon earth could conceive Nos. 8 and 9 made a part of it have already been stated. Some of the first mechanics in the kingdom will give evidence that the drawing and description does convey a distinct and intelligible idea; and that they could direct any man to make the machine for what is

called sizing, by the description. The next is the roving box, No. 7, which is described to be a cylindrical box for twisting the contents of the rollers, No. 6, which the mechanical gentlemen will say is perfectly intelligible. No. 10 is a spindle; the place where it is fixed is described; the regulator which stops it and sets it going, is an improvement, but not an essential part of the machine; it may be added or left out, the effect is the same. The machine consists of three parts, Nos. 6, 7, and 10, all of which are necessary to produce a complete effect; and therefore to complete the different machine from the spinning machine, there is not the same combination of parts, nor are there the same parts; upon the whole there is a complete machine, in some parts essentially different, and in their combination totally different, from that in the former patent. Until this ingenious combination, it never entered into the head of any man that the spinning machine, or any part of it, was applicable to the purpose of roving.

Three distinct classes of witnesses will be called: first, those acquainted with the cotton manufacture, who will prove that these machines, in their improved state, were not in use before Mr. Arkwright's invention; next, some of the most eminent mechanics in the world, who will give the most solid reasons, and declare, that from the specification alone, provided they were informed of the machine before in use, they could have produced a machine in its improved state; and lastly, workmen of that trade, who will swear not only that they could make the machine from the specification, but that they have so done without any other instruction but being apprized of the machines formerly in use, and have brought them to a state of perfection to act upon the same principles, and produce the same effects. So far, therefore, as to the attempt made to prove there is obscurity in the specification; it is perfectly nugatory.

The last piece of evidence is the paper which purports to be a case intended for the House of Parliament. In what way Mr. Arkwright was advised to state his case there, is wholly immaterial in a case that affords so much actual evidence of the fact; and that Mr. Arkwright could study to conceal from his country this invention, which it will be proved is effectually described, is altogether an impossibility; and, therefore, if it was inten-

tionally rendered not so clear as to be understood by Frenchmen, who are totally strangers to the cotton manufactory, he has done right and laudably, if he has not done it so as to conceal it from the millwrights and machine-makers who understand the former machines in use.

[The Learned Sergeant then called evidence in support of the patent, which was similar to that produced in the former trial. As the Learned Judge in his summing up the case entered at length into the evidence of each witness, it will not be necessary to repeat the same here.]

Mr. Bearcroft, in reply, contended that three propositions were made out, every one of which destroys the validity of this patent.

The first proposition is, that this machine was not a new invention when the patent was obtained. What is the invention? A machine for preparing cotton and flax upon simple principles, but in a very different way than ever was done before by spinning. Now is this done by any new invention? If it is, is it not done by the application of several other things to the old carding machine? Does the merit of the invention consist in that? Why is it not so described? If the merit of this machine was ever so new and meritorious, they have not described it in their patent. For if the merit and novelty of the invention consists in the application of all the parts in the old machine, and any new matter added; in point of law, in order to maintain their patent, that ought to be their description. It is a settled point, for it has been so determined, that if a new invention, which is the ground of a patent, is the addition of a new application to an old machine, they should so describe it in their patent; it was expressly determined in the case *Williams v. Brodie*. *Williams* brought an action against *Brodie* for invading his patent for a stove which was described as if all had been new, covering the old stove, which the world was in possession of before. The plaintiff *Williams*'s merit was very great, he greatly improved the old stove; it was allowed on all hands to be excessively ingenious, and perfectly equal to maintain a patent; it was much admired, and the whole world bought it. But it was not described properly in the patent, it was taken with the addition, describing the improvement in the patent, and

the old stove with it, without any distinction; it was not described as a new application upon an old thing; upon which there was a verdict for the defendant.

If an addition is made to an old machine, and it is described altogether in the patent, nothing but confusion will follow; and although the patent upon the face of it seems to cover the whole, it does not. Many are the inventions of new applications to the old stocking frame: they are patents for that application, describing it as a new application. This is not so; but, taking these as additions to the old machine, was it a real novelty at the time of the patent in 1775? What is the feeder? Cotton upon cloth. So was the old one. The difference is, it is rolled up; but have any of the witnesses proved any important or great convenience of the sort it describes? Can it be said, that the invention of this cloth, rolled up and covered with cotton, is so superior to the old one in use long before, that it alone is enough to ground the merit of a new invention? After the cloth feeder, we come to the old carding machine; but, as we are hunting after novelties, we must dismiss that old machine. Then what is the novelty? It is a cylinder that procures a perpetual carding. Is that a novelty? Mr. Pilkington swears the contrary. Then there is no novelty in that. "But," say the gentlemen, "that is an improvement: and, if we have a patent, may we not improve it afterwards, and use it?" Most undoubtedly you may; but what have you got this patent for? Substantially only for that which existed at the time of the patent; not for that which is to be invented afterwards. But finding, as they say, the spiral fillets more convenient, as they take all off, upon what ground are they to be taken to be part of the patent? If it is not so, the merit of the spiral fillet is out of the question; for it is no part of the patent, and is not specified, and did not exist at the time: it is an after thought. But although the cylinder with parallel fillets, performing the continual carding, exactly in the same way as stated in the specification, was in use before, it is said, it was not in public use. What, then, is public use? It was used by Pilkington in the presence of Arkwright; he used it for the purpose of his trade, and in the presence of all his servants that were employed about him. Is not that public use? "But," say they, "it was all stolen from Mr. Arkwright." If Mr. Arkwright thought Pil-

kington was invading his patent, could he not have got some of the various servants that assisted in that operation, to have given evidence against him? Mr. Arkwright is ready enough with his actions, and would have brought one against Pilkington if he dared; and the true reason why he did not, was, that they invented, and were in the exercise and enjoyment of it before him.

It has been shown, that the feeder is not new, and that the continual carding by fillets is not new: the spiral fillet is out of the question, as it was not existing at the time, nor is it in the specification.

Then there is the crank. Is that new? One of their own witnesses said that it was used in 1772.

Then as to the roving machine; we are asked, is there no novelty in the rollers? None at all; they were not new in December, 1775, because they were invented before; and we will suppose by Mr. Arkwright, upon which his original patent for spinning was granted, and of which he has had the benefit for fourteen years, and raised a great fortune of above 100,000*l*. But it appears from his printed case, that "he wanted to connect, and confirm, and to consolidate the former patent with the present." That was the secret of the whole; his great object is to preserve and elongate that patent which he thought expired too soon. But he cannot, by law, get the same thing which he tried the House of Commons for; and as all these rollers for roving are the identical rollers for which he had the benefit of his former patent, and applied to the spinning, all the difference between the roving and spinning being, that one is a coarse thread, the other a finer. Where is the novelty, if this produces the same effect, and the difference only coarse or fine?

Now, as to the box. The Learned Segeant says, this tin canister is itself an invention that deserves a patent. Why? because they have clapped a couple of rollers upon the top of it. That, our witnesses say, does more harm than good, which evidence stands uncontradicted; for the first manufacturers, in point of profit, work it without rollers: not because they cannot buy it, but because they cannot get any thing by it. These observations, it is hoped, will be sufficient to maintain the first allegation, and to entitle the king to your verdict.

To proceed to another point. Suppose it is new; Mr. Arkwright is not the inventor. A witness of unsullied

character, who was bred up to this business, upon his oath positively says, he himself invented rollers exactly like those, and that they were employed in the same business. That he communicated it as a secret to one Kay; Kay tells Mr. Arkwright of it, who, by the next morning, was satisfied of the value of this invention, takes Kay for a servant, keeps him for two years, employs him to make several models of that which is now called a new invention, and made the foundation of this patent.

Now to the last question, which is the same that has been twice tried. It was decided one way in this court; another way in the Court of Common Pleas; it comes, therefore, fairly, and without prejudice, for decision upon the present trial, and the present evidence. The point is, that Mr. Arkwright, by his specification, not only did not make a fair disclosure, but purposely intended to puzzle and confound the secret, to prevent its being understood. Is there any doubt, but Mr. Arkwright was perfectly equal to the description? He could have done it fairly, if he had been fairly disposed. His specification under the first patent for spinning—was not that a discovery of importance? Was there any reason why he should be more willing to part with that to the French, than the new patent? There he does all I wished him to do here; all that a man does, who fairly means to disclose the thing he does; that is to say, there is an exact drawing of the machine itself, the perspective in such a situation you can best see most of its parts. But, because the drawing in perspective would of necessity hide some parts of it, the principal parts, the several rollers are drawn by themselves, and described exactly; and lest there should be any mistake about it, there is a scale at the bottom of the drawing. That is the specification, and that is the description by which any workman, who makes machines, can make that machine. It shows, that Mr. Arkwright can disclose when he pleases, and can put it in every part so plain, that a child may understand it; and why not do it afterwards? Why disclose fully in the first instance? He knew the value of his patent, and was ready to pay the price of it. Why not do the same now? because, if he did, he knew that any man who put his eyes first upon that patent and specification, and then upon this specification, if fairly and fully made, would have seen that they were in truth the same. Comparing this specification

which he chooses to make, with that he made before, could he not, if he would, have given a proper description of it? It is true he chooses not to do it. If this had been the first time, he would have had an excuse; he might have said at first, I did not understand it, if the first had been incomplete; the second I did understand better, because I had experience. However, the second description is not the best, but it is just the reverse, manifestly for the purpose of deception.

Then there is the evidence of Crofts, the man to whom Mr. Arkwright goes to make his specification; and when the man says, "I don't think this is a proper specification, I am afraid it will not do," says Mr. Arkwright, "I mean it should do very well for the patent." That seems to be the substance of his answer to Crofts. And why not do it? We are told, because he chooses to keep it from the French. The printed case states, two or three times over, that to be done on purpose. Is it possible, then, to say any thing but this of it, that, beyond all doubt, this gentleman meant not to disclose the invention?

We are very properly asked, what is the sort of disclosure required by law? These are the words of the letters patent—"particularly describing and ascertaining the nature of his invention, and in what manner the same is to be performed." The evidence called upon that point differ in opinion. Some say it is impossible to do it by the specification, others giving an opinion that it may be done; and two persons have chosen to swear, they did it without any assistance. It is wonderful and extraordinary, and so extraordinary, that if that sort of thing could be fairly performed, it is of the utmost importance to Mr. Arkwright to demonstrate the fact to be so. Mr. Arkwright was warned by the two first trials, and ought to have taken care to have gained it the utmost credit of which it was capable. Two men swear it; one of them had a conversation with Mr. Arkwright, and somehow or other it was, he took care to acquaint him with the old machine; two or three words cleverly put in might direct the man's ideas to this. What ought Mr. Arkwright to have done? He ought to have desired persons to pick out able workmen, and put them in rooms with witnesses, and have had no communication with those witnesses, and brought witnesses to say he had no communication with them, and have put the specification

into the hands of the persons appointed to do it; and, if they did it, it would have been fully proved. Nothing of the kind has been done.

The observations upon the face of the specification itself, the evidence of the man that drew it by Mr. Arkwright's directions, and the printed case confessing the fact, are decisive, that he did not mean to disclose, and he has not disclosed it. It is not enough to give such a description, that by a possibility some who are of the business may be able to do it, it ought to be plain and certain to common understandings, and common skill in subjects of this kind. Does it follow that because two or three are found to say they could do it, that any body else could do it? There is still so much difficulty, as shows his intention was to conceal it.

Mr. Justice Buller.—This is a *scire facias*, brought to repeal a patent granted to the defendant, for the sole use of instruments or machines, which he represented to his Majesty that he had invented, and which would be of great utility to the public, in preparing silk, cotton, flax, and wool for spinning, and that those machines are constructed on easy and simple principles, very different from any that had ever yet been contrived; that he was the first and sole inventor thereof, and that the same had never been practised by any other person whatsoever. It was upon this representation made by the defendant that he obtained the patent now in question.

The proceeding by *scire facias*, to repeal a patent, is somewhat new in our days; none such has occurred within my memory, though in former times they certainly were very frequent.

The decision of this cause, it is admitted, is of very great importance to the public upon the one hand, and to the individual who has the patent upon the other. The value is likewise stated to be very extensive; and besides, there have been two different decisions upon the question.

It is for these reasons I chose to give the cause a much fuller and more patient hearing than I should have thought either necessary or proper, if it had been merely an action for damages between two individuals.

If I found myself under the necessity now of differing in opinion from either of the two very great and respectable authorities before whom this question has been

brought, I should do it with great hesitation, and with great diffidence of my own opinion; but, happily for you and for me, we are relieved from that difficulty, because it is admitted on both sides, that different evidence has been produced now, from that which was laid before either of the courts upon the former trials; and, therefore, it will be for you to decide the several questions which I will state to you presently, upon the evidence which you have heard here, without regard to either of those former decisions.

The questions for your decision are three:

1. Whether this invention is new?
2. If it be new, whether it was invented by the defendant? And,
3. Whether the invention is sufficiently described by his specification?

It seems to me the last is the question of the greatest importance: because, if you should be of opinion upon that question, that the specification is not certain enough, it may have the effect of inducing people, who apply for patents, in future times, to be more explicit in their specifications, and consequently the public will derive a great benefit from it; and therefore I will state to you the evidence upon that point first, and will endeavour to state it separately from all the evidence which is applicable to the other points of the cause.

*Good showing an
advantage to the
public*

Upon this point it is clearly settled as law, that a man, to entitle himself to the benefit of a patent for a monopoly, must disclose his secret, and specify his invention in such a way, that others may be taught by it to do the thing for which the patent is granted; for the end and meaning of the specification is, to teach the public, after the term for which the patent is granted, what the art is, and it must put the public in possession of the secret, in as ample and beneficial a way as the patentee himself uses it. This I take to be clear law, as far as it respects the specification; for the patent is the reward, which, under an act of parliament, is held out for a discovery, and therefore, unless the discovery be true and fair, the patent is void. If the specification in any part of it be materially false or defective, the patent is against law, and cannot be supported.

It has been truly said by the counsel, that if the specification be such, that mechanical men of common under-

*Shew should
teach the public
the patentee's best
mode of practicing
his invention*

standing can comprehend it, to make a machine by it, it is sufficient; but then it must be such, that mechanics may be able to make the machine by following the directions of the specification, without any new inventions or additions of their own. The question is, whether, upon the evidence, this specification comes within what I have stated to you to be necessary by law, in order to support it?

Shew, alone, without adding, ought to enable a mechanic to make the machine specified

The prosecutors have attacked it in almost every part.

The first witness who speaks to the specification is John Lees, a quaker; he takes it up, upon the feeder, marked No. 3; he says, the old feeder was made by him; he has examined this specification, and thinks he could not make that feeder which is now used, from the specification; he could not make it if he followed that specification.

Hall, the next witness, says, it is not possible to make such a feeder from the specification; he could have made nothing of it.

The next witness that speaks to any part of the specification is Hayes: he says, rollers were made by him in 1767; that in 1769 they were the same as this, and those used by the defendant, the one was fluted, and the other covered with leather; first they were fluted wood upon an iron axis, the other was the same, only covered with calves leather; he says he originally made them of a different proportion, the one to move faster than the other.

If there was any alteration that the defendant made that was material, it ought to be specified in the patent; but, in speaking of that article, it is perfectly silent to the material, or form in which it should be made.

Then John Kay, speaking of the rollers, likewise says, one turned faster than the other; and there was a use in this, because it was to draw the cotton finer. In this also the specification is perfectly silent.

In the plan one appears to be something smaller than the other; but how much, or what were to be the relative dimensions, or upon what scale they were to be made, the specification says nothing.

They call Mr. William Doubleday Crofts, who spoke to the whole of the specification. He says, the defendant applied to him, after the patent was granted, to prepare his specification. The plan was drawn, and he employed

the witness to draw up the written account: says he, upon drawing up that, I told the defendant, I thought it was imperfectly done, and that it would not answer the purpose. I asked for the former specification, and he said that was drawn from a model of the machine by a draughtsman in London. The defendant said, he meant it should operate as a specification, but to be as obscure as the nature of the case would admit; for, at the expiration of fourteen years, the public would have the benefit of the machine, and he thought the machine ought to be locked up; but if it were not, he wished to prevent its being taken abroad. This witness says, he has seen the specification many times since, and, notwithstanding this conversation, it remained the same as it was when he first saw it.

I begin with this evidence, because it is very material to be considered, whether the specification, in any part of it, bears a doubt, because the obscurity of it was pointed out to the defendant before he made it, and he then professed to make it as obscure as he could; his object was to get the benefit from the patent so far as putting money in his own pocket, but as to the benefit the public were to receive, it was to be kept back as far as it could.

The next witness was Francis Ambrey, a machine-maker, who has worked at it six years; he attempted to make one from the specification, but found it impracticable, and gave it up.

The next is Joshua Wrigley; he made machines four years; he tried to do the best he could, but he could not make the machine from the plan. He says, that he tried it before there was any objection made to the specification.

The next was Thomas Leaming; he says he examined the specification; he is a machine-maker, has followed the business about ten years and a half, that he could not make it from the specification, that there was no roller in the cloth, that the fillet cylinder is deficient, and will only discharge half the cotton from the large cylinder, that the rollers have no pinions to show their movements, neither any weights to keep them together; he could have made a machine according to the drawing, but if he had, that machine would be of no use at all.

The next witness is Immison; he says he is used to

make machines from drawings, that there are very few parts of the carding-machine described; the crank and one cylinder belonged to it. He says, it is impossible to make such a feeder as that described in the plan, because there was no axis to it, and from the specification he should have made a parallel cylinder, and never thought of making a spiral one; yet, you observe, that this is the one used by the defendant. As to the rollers, it don't appear by the specification that some were to go faster than others; and, from the specification, without other sources, it is impossible to say how they should be made: as there is no scale to work by, no plan to go upon, it is impossible to know how to do it.

Upon his cross-examination, he says, as to the feeder, there is nothing but the want of a roller which makes that defective; that a roller is necessary to give a regular direction to the work, that it will not answer without it. He says, from the knowledge he has now, he should add a roller if he was directed to make the machine. But, gentlemen, that don't prove the specification to be sufficient; because, if a man, from the knowledge he has got from three trials, and seeing people immediately employed about it, is able to make use of it, it is his ideas improve the plan, and not the merit of the specification; if he makes it complete, it is his own ingenuity, and not the specification of the inventor. He says, as to No. 5, it will not work five minutes together before it will be entirely full of cotton: he is asked, supposing the cotton was to be spread upon the feeder only the breadth of the fillets, would it have that effect? He says, it would not do even then.

The next is Benjamin Pearson, who says, the cylinder the defendant uses was a worm, which stripped the whole off the large cylinder, and they spread the cotton the whole breadth.

The next is Thomas Barber; he says, he has been used to make machines from drawings; that he could make the limbs of this, but he does not see how to put them together from the specification; that there is no connexion, no moving part or principle, no way of putting them together—nothing to set the rollers going. That if there is no axis, the feeder might move without it, but not with any regularity; that the fillet cylinder is not connected with any thing, the parallel filleted cylinder

*Stems being under-
stood by our judges
of peculiar facilities
is not thereby proved
to be good.*

will not make the edges of the rovings good; it would not be carding, part of it would not be carded; that it must leave the cotton upon the great one, and must clog the machine. That, with the assistance of the written specification, he could not put the machine together.

John Johnson says, the specification is not a sufficient description of the machines that were produced in court; he has compared them with the specification and writing, and he is satisfied in his mind they could not be made from them: that No. 3 is in want of a roller, and therefore defective; that No. 4 is pretty well described; that there is no description of the rest of the machinery sufficient to make one by. That he is a cotton-engine maker. He says, there are not sufficient directions to put the parts together; that one part is directed to be put to another, but there are chasms between.

The next is Mr. Cumming; he is a watch-maker; he says, that he has seen the machines more than once. He says, it was mighty easy to have given a description of the machines, to bring it within the scope of a common mechanic; that is not done: that, putting himself in the situation he first saw the specification, he could not comprehend it at all; that now he has examined it so much, he could not make it from the specification, informed as he is; so, you see, his knowledge is from other means. At first he could not comprehend it; that if he had employed an artist to make the machines, he must have been asked a great many questions which he must have resolved, though he never should have been led to it by the specification; "and if by accident I had hit upon the same machine the defendant has made, I should not have known it was that meant by the specification."

This evidence is as strong as any evidence that could be given upon the point. He says, No. 6 would not give any instruction; that he could not find out by it that Mr. Arkwright meant the rollers should be fluted, and that they would have relative velocities; that he has no authority for the motion by the specification, and it never could have occurred to him to have looked at the old machine; for he thought it an entire new invention, and not depending upon the old description. He says, if No. 6 was representative of the roving passing from it into No. 7, which is the can, he should have understood it; but No. 7 is represented as a solid, and not a hollow

axis to admit any thing else, and he thought that a want of evidence of its being an original invention. That it was very easy upon paper to distinguish the spiral from the parallel, but these are represented as parallels. He says, he never understood till that time, Nos. 7, 8, and 9, would any of them serve the same purpose. He says, the principal cylinder appears by the specification to be the parallel cylinder, and, says he, "if I had been conversant with the former machine, and even known the spiral cylinder had been used in that, yet I should have thought this plan meant to distinguish it from the spiral cylinder." If he is right in that, which is not contradicted by any witness that I can find, there is nothing else to be said about this plan, but that it is calculated to deceive and mislead. If calculated to represent the cylinder made use of in the old machine, it might have been done by reference, and then the argument would have been proper, which the counsel for the defendant pressed; but if the defendant meant to make use of the parts of the old machine, he, by his description has misled every body who has to make this machine now in question; because he has in his plan made the specification directly contrary to that used in the old machine. And therefore it is for you to say, (if Mr. Cumming's reason be not conclusive in itself,) whether, if there be one thing known, and a man gives a design of a different thing in contradiction to that, and yet means that the thing known should be used, is it not misleading mankind? This witness says, there is nothing in the specification that puts No. 2 out of the question: he should have thought by finding it in the plan it was to be of some use, but he could imagine none for it.

The next witness is John Viney; he says, a gentleman brought the drawing to him; he observed there was no scale, and it was not possible to form any idea of the dimensions of any one part of it. That within three weeks from this time, two other gentlemen brought it to him; that his reply was exactly the same, that he could not pay attention to any thing so totally void of any sort of means for understanding it: they produced the description of the drawing; that he reviewed it at two or three different periods; "at last," says he, "I was left totally ignorant of the means of constructing the machine this was meant to describe, as ignorant as if I had never

seen it." He says, he never saw a cotton-mill, but, from his knowledge in general, he could form no idea of any man being capable of working from drawings that had no scale.

Thomas Walford says, he is conversant in filleting machines; that from the specification he could not have made the machine; it wants the means of communication; he takes No. 3 to be more like a worm than any thing else, from the appearance of it, and he could not tell how to apply it: that he could not put all the parts together; that it was a very easy matter to describe them so as to be understood, that the spinning-machine was accurately described, and this is not at all so; that there is no scale to go by.

Mr. Harrison, who was with his father at the experiments for the discovery of the longitude, told you, that he has examined attentively the drawing, and the explanation, and the machine; that this machine is not described by the drawings; he says, he could not make them from it, but they might have been very easily described; he says, if he had added the roller to No. 3, that would have been his own invention; that he never had seen a place for No. 2, and so many things are thrown in, which have nothing to do with the business, he thinks it must have been for the purpose of perplexing; he says, he concluded No. 6 was new, and did not refer to the first specification; and he gave the same reason that Cumming did about the rollers.

Mr. Ewer, who is chairman of the committee of mechanics at the Adelphi, says, that he is acquainted with mechanics in general; he says, if a person confines himself to the specification solely, it is impossible to make the machine perfect without exercising his own inventive faculties; he does not think a person could make a machine entirely by that specification; he says, No. 3 has no roller, that No. 5 is exceedingly imperfect; he makes the same objection the others do about the filleted cylinder; that he has seen a great many specifications, that he never saw one so obscure as this; some of the drawings are in perspective, the others only sections, and that those that are the most important are the most confused in the description.

Mr. Pilkington says, that Mr. Arkwright gave him some cases which he was to present to the House of

Commons, and desired the witness would read them, and promised to send him more by his servant, which he did. Those which were delivered by the defendant seem to me to be material; because they show what the defendant's sense of this business was immediately after the first trial. It has appeared from what has been said on both sides, and it was so stated in this case, that he was beat upon the first trial upon the subject I am now stating to you, that is, the specification; he admits in that he has not properly specified how the machine was made, and he says, he purposely (in prevention of an evil, that foreigners might not get them) omitted to give so full a description of his inventions in the specification, attending the last patent, as he otherwise would have done; this he admits; and he goes on and states a trial in Westminster Hall, in July last, at a large expense, when solely by not describing so fully and accurately the nature of his last complex machines as was strictly required by law, a verdict was found against him; he bows with the greatest submission to the court and the verdict against him; and he deprecates the favour of parliament.

Now, in a case where an invention is lucrative to so enormous a degree as you have heard, and where the verdict was given against him upon a particular point; had he not been most thoroughly convinced that the verdict was right, or if he could by any explanation have supported his specification, is it to be conceived for three years and a half he would lie by, and totally lose the benefit of his patent? But excepting this application to parliament (which does not go upon the grounds of his patent being good), by abandoning it on account of his own fault, and desiring favour and bounty there, he relinquishes the patent for three years and a half.

This is the evidence upon the part of the prosecutor against the specification, and it is material to see a little how the defendant's counsel endeavoured to support it. Here is a specification that states ten different instruments; it is admitted by them, that as to No. 8, it is of no use, and never was made use of by the defendant in his machine. It is also admitted No. 9 stands exactly in the same situation, as this could not be put into the machine. This is a little extraordinary; for, if he meant to make a fair discovery, why load it thus with things that they make no use of, and which are totally unneces-

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sary? That could answer no purpose but to perplex. But, say the counsel, we will show you that there were two machines, and they were two distinct things; for, say they, Nos. 3, 4, and 5, are the material parts of one machine, and those alone afford all the information necessary. Then, besides that, there is the roving-machine, which consists of Nos. 6, 7, and 10, joined together. If that be the truth of the case, and there are to be two distinct machines to be made up by parts only of the instrument specified in this plan, let us see whether it is so said in the specification. There is not a word of it. It begins with the first, or No. 1, which is a breaker or beater of seeds and husks, and a finer of the flax, hemp, and other articles, which are to be prepared for dressing. Then, says the counsel, there was a difference as to those things, because the hammer was proper for the hemp, and not proper for the wool. If there be that difference, it was necessary for the defendant to state it in his specification; but he has made no distinction; he has left to those who are to learn his art and secret, to use the same machine for every part of it; he has not distinguished between the cotton and the flax. The specification states, that it is proper for every thing. Is it so? It is admitted it is not. Is there any thing which states that these parts are for two machines, and how they are composed? That the specification is totally silent about. What is there in the specification that can lead you to say you must make use of three things for one of the machines, and three for the other, and which three for one or the other? And even were it so, what is to become of the other four? If those are of no use but to be thrown in merely to puzzle, I have no difficulty to say, upon that ground alone, the patent is void; for it is not that fair, full, true discovery, which the public have a right to demand from an individual, who, under the sanction of parliament, gets so great a reward as a monopoly for fourteen years.

However, upon the part of the defendant, they have called several witnesses, to show you it is perfectly intelligible, and that they can make the machines from this specification. The first is Richard Pridden; he, you observe, is partner with the defendant's son, and the defendant's son does actually work this machine;—he says, No. 3 is the feeder described by the patent, and that

Specs. should contain nothing that is useful as it may mislead & invalidate the Patent.

was not in use before to his knowledge; he can only speak to his knowledge: he says, No. 6 are the rollers, with these the cotton is sized and roved; this is done with less labour than before, and better, because the lengths are longer.

The next is Charles Wilkinson; he says, he lived at Nottingham, kept an academy, that he was applied to by Mr. Arkwright to draw the specification; that he had no directions from the defendant to make it obscure, and he did it to the best of his skill; he had seen the old machine before; he thinks from this specification alone it might be made; he is not acquainted with the cotton business, but the essential parts are described; but he says, he looks upon the rollers to be the essential parts of the old machine; as to the roving box and the crank, he took them from a model of part of the machine, and all the rest from the defendant's description; as to a scale, he says, a thing drawn in perspective does not admit of a scale; when you draw sections, it is necessary; he thinks it is necessary, to have a scale to show the different proportions of the rollers.

Now you see this man took his information, or a great deal of it, from the defendant himself; and supposing it true that he or any other person instructed by the defendant, and having seen what he does, can make a machine from the specification; yet that will never support it, unless other people, from the specification itself, who have knowledge in the business, can also do it. This is not the case with this man; but the last thing he says is also a material thing against the patent; for he says, for different purposes different proportions of the rollers are necessary. How is any man to find that out? It is not said in the specification it must be different in one case from the other, and that you are to have different rollers for hemp, or for cotton; all this remains to be the subject of a future discovery.

Mr. Samuel Moore says, he is well acquainted with mechanics, that he has been examined at both trials, that he never saw a cotton-machine till a day or two before the first trial; he says, he has seen the old machine in use before; he says, these are rather additions to the machine, than a whole and complete machine itself. Now, you will observe what he says as to the making of it: "I believe, with due attention to the old machine, and

an accurate attention to the specification, I could direct a skilful artificer to make the machine." This is all that a very ingenious sensible man can say of this specification; he has examined the instruments and machine, and seen a great deal of it between the trials; and at last, he believes, with all the extreme caution that I have mentioned to you, that he could direct a skilful artificer to make the machine: he says, that as to No. 3, a piece of cloth, with cotton, or any other material that was to be carded, rolled up in it, would certainly move much better, and more steady with a roller within side, but it would do without it. If wanted, he thinks it would easily occur to a mechanic to put it in: that is, that a sensible man would have understanding enough to supply any defect in this specification: but in this case it proves the specification is insufficient; it will not do of itself, but wants something to be added: it is deficient, and there is nothing in the specification that imports there should be a roller in it.

He says, the crank is clear; as to No. 5, that it is intelligible to him; but, says he, if I was bound to proceed according to the form of the plan, I certainly could not direct a spiral cylinder.

According to this account, how is the machine to be made? The question is, whether that machine can be made hereafter, by persons that follow the trade, from this specification? The defendant uses a spiral cylinder; is that to be found out by the specification? Why, no; Mr. Moore says it cannot be done. The specification states, that there must be parallel fillets, and the defendant uses a spiral one: he admits it is so material to the case, that if it moved in a parallel form, it would choke the work; he says, it does look as if it were intended to have a horizontal motion by the length of the spindle, but he admits there is no such description in the specification; he says, upon the former trial, the cotton was spread the whole breadth, and then it choked; but now he sees it is put in fillets. There is no necessity for putting it the whole breadth of the cloth; he says, he has read the verbal explanation, and it appears from the drawing and explanation that No. 6 is the section of the rollers.

There is nothing, says he, that shows what the difference of velocity should be; that remains for experiment hereafter. Is that the case with the defendant? No; he

*Question to be applied
to spec is. Can
persons in the trade
make a machine
from it?*

knew to a certainty what it was. The man that comes to give an account of the invention says, I had calculated it, and the difference of the velocity was to be as five to one; this is the way I made my rollers: now the defendant has not said a word of that in the specification; in that he has kept back the knowledge he had as to the size of the rollers and the velocity, and it is left to people to find it out as chance may direct.

He says, he understood pretty well what No. 7 was; but that was better explained by the machine itself. No. 10 he don't think is a difficult matter to account for. He says, that knowing the original machine, he could have put the machine together.

He thinks now he could do it: but that does not apply to the question at all, if he means he could now do it from the four instruments, and the old machine, which the counsel have told you were all necessary to be understood for that is not the thing described by this specification. *He does not prove it is sufficient by a man of great experience being able to carry inventions into effect.*

Upon his cross-examination he says, there is nothing in the specification which imports the cotton is to be laid on in fillets, that depends upon the rollers. As to the velocity of the rollers, that may or not depend upon their size; he says, he is not a practical mechanic; he thinks there is no difference between the rollers of the first and last machines; he says, from the sections of the rollers he could not determine what diameter the rollers should be for making any particular thread; he says, No. 6 and 9 are very much like the old machine; No. 2 is not used in this machine at all, he does not know what it alludes to; he thinks the can might do without rollers, but much more ineffectually without the rollers: he thinks, upon the whole, it is sufficient for an intelligent mechanic now to make the machine by it.

The next witness is Mr. James Watt; he says, having known the machine, and having the specification in his hand, he thinks he could make such a machine as this; but when the specification was first put into his hand, he was told No. 1 and No. 2 were not used in the cotton manufactory. Then this man did not act in the same way the others did that were called for the prosecutor; because he had other knowledge conveyed to him more than he could collect from the specification. He did not immediately conceive what was meant by No. 5; he was not acquainted with the term fillet cards; upon reading

the specification he did not conceive there was the old machine in it; he, by his own account, was misled, and formed a different idea of the specification and plan from what the defendant used. He says, No. 3 would do without a roller, but if it was necessary, there could be nothing so common as putting in a roller; that it must occur to any man of common sense; from the plan he had not an idea the cotton was to be put in fillets; as to No. 2, he should have conceived that a separate machine; he admits the hammer, No. 1, is not a new invention, and that the rollers used in the roving and spinning machine perform the same thing; he says, there is not a word about the wheels to turn the rollers; he says, to effectuate the different purposes, they must be of different diameters, or the same if they are differently moved by the wheels.

The next witness is John Stead; he says, he has seen the specification and the old carding machine, and knowing that, he believes he could make this machine from the specification; that he has done part from the drawing; that what he did was to try experiments; says he, my object was to make the new machine, but to avoid his patent. He has no doubt but he could have made the whole; he said it was necessary to find out something that might be clear of the patent, and what he made was by substituting different things, meaning to make a machine that might not come under the description of the patent; he says the specification so describes it, that he has no doubt whatever of making it. He says, the roller in the feeder does not appear, but the purpose may be answered without; he has seen a mill which he was informed was built under the patent, and that is with a roller. The spiral card does not appear. As to the rollers, he says there must be a different velocity, but what that might be he cannot tell; and he believes no one set of rollers, of different diameters, could be ascertained for all sorts of work; he says, the size of the rollers is not specified, and they could not specify that, because there must be different rollers for different sorts of work.

Then, according to his account, the defendant has not stated that which was necessary for any one thing. It is not so stated as to enable the person that reads that specification to know what size they are to be for any one thing to which this patent relates.

The next witness is Thomas Wood, who was partner with Pilkington: he says, he has examined the specification; he put Nos. 4, 5, 6, and 7 together, and that machine he has worked ever since; he don't recollect that the defendant used any thing else. If that be true, it will blow up the patent at once; he says, he believes nobody that ever practised would find any thing necessary upon this paper but the Nos. 4, 5, 6, and 7; he should look after no others.

Now, if four things only were necessary instead of ten, *Spain had if one is made to possess nearly as, then is really so.* the specification does not contain a good account of the invention. As to the can, he made use of it without rollers at the mouth; he thinks it answers just the same without it.

William Allen says, Stead furnished him with the specification and drawing a fortnight before the last trial, and desired him to make a model from the drawing and specification, which he did, which answered much the same for carding and roving; but, says he, I had another friend I talked to, that was one Whitmore; he says, the specification is competent to enable a workman to complete the machine; he says, it occurred to him they were moveable rollers which were described to him as No. 6; he says, in order to procure different degrees of fineness in the roving that passed between these rollers, it is necessary there should be different degrees of velocity.

William Whitmore has made models of machines for different purposes. He has seen the drawing and the specification; Stead showed it to him: that he undertook to make the machine for carding, that he had not even the knowledge of the old machine at first. He says, the defendant employed him to make a model, and that Allen saw his model before his own was finished; says he, I had two or three hours' conversation with the defendant after I had begun the model. I had a description of the old machine, but I think I could have done it without.

The next witness is Dr. Darwin; he says, he had seen the machine previous to the drawings; he thinks he might have made it from them; he says, the want of a scale was not very material, but it would have been worse if they had been intended for different purposes; he says, the rollers must have been of different diameters for different purposes.

John Hagget tells you he has known the defendant

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fourteen years; he says he has seen the specification, he thinks it is a sufficient description for a person acquainted with the old one to form a new one; that he was employed by Mr. Arkwright from the first beginning of these new machines, and trying experiments; that he gave him directions sometimes with chalk upon a board, and sometimes by crooking of lead and wire as models; he says, he don't remember hearing him say he received instructions from any body else.

Then Thomas Bell, a joiner, is called; he was concerned for the defendant about five years, in making parts of the machine that were invented from time to time; he says, the crank, No. 4, he had never known to be used by any person before the defendant.

This is the evidence that relates to the specification upon the one side and the other. You see, upon the part of the prosecution, they have called to you very ingenious men, that seem to be much beyond what are called common mechanics in life; they have all told you it is impossible for them to make the machine according to the specification.

Upon the other hand, several respectable people are called upon the part of the defendant, who say they could do it; but there is difference in their description; most, if not every one of them, have looked at and seen how the machines were worked by the defendant, and have got their knowledge by other means, and not from the specification and plan alone. Besides, they admit the manner the defendant works it is not consistent with the plan laid down, particularly as to the cylinder, a particular part of the business; for Moore says, this upon the face of it must be taken to be a parallel, whereas that which plainly appears to be used is a spiral; besides, after all this, they have spoken, most of them, in a very doubtful way; particularly Mr. Moore, who qualified his expression in the way which I have stated to you; and the others qualifying their expressions, saying, they think upon the whole, they could do it. Suppose it perfectly clear they could, with the subsequent knowledge they had acquired, yet if it be true, that sensible men that knew something of this particular business, and mechanics in general, cannot do it, it is not so described as is sufficient to support this patent. It will be for you to say, upon this part of the case, whether you are satisfied this speci-

*Speech ought to be
intelligible to practical
men of average
understanding.
otherwise it is
insufficient.*

cation is such as, with the plan, it may be made from it or not, taking the old machine into its assistance, which, by the by, the specification has not taken notice of as known. If you think it is not sufficiently described, that alone puts a complete end to this cause, and then it will be unnecessary to trouble you any further.

As to the other points, they are two; first, whether it is a new invention; and in the next place, whether it was an invention made by the defendant.

Now, if in your opinions it is material to go into these points, I think the law in general is very different on them from what I have stated in the specification; because, in the case of an invention, many parts of a machine may have been known before, yet if there be any thing material and new, which is an improvement of the trade, that will be sufficient to support a patent; but whether it must be for the new addition only, or for the whole machine, would be another question. It seems to me, not to be necessary now to state precisely how that would be, because this patent is attacked upon the ground that there is nothing new; therefore I will go over the articles one by one, and see what is stated upon the different articles which are here mentioned.

As to No. 1, see how the defendant has stated that in the specification: that is stated to be a beater or breaker of seeds, husks, &c., and a finer of the flax, hemp, and other articles, which are to be prepared for dressing, in which (a) is a wheel with teeth, which, by acting upon a lever, raises the hammer (c), the lever being moveable upon the centre (d).

Now this, it is said, is not stated by the specification to be joined to any thing else, and therefore it must be taken to be a distinct thing. It is admitted, that it is not a new discovery, for Emerson's book was produced, which was printed a third time in the year 1773, and that is precisely the same as this. Several other witnesses speak to that. Upon the part of the defendant there is no contradiction; and therefore I will pass it over without going over the rest of the evidence, as clear that it is not new.

Then the second thing is an iron frame with teeth (a) working against a lower frame with like teeth (b). It says, this lower frame is firmly connected to a wooden frame by means of the screws (c, c), and the upper teeth

are made to act against the lower, by means of the joints marked (d).

Let us see how this has been used. Says Benjamin Pearson, I never saw it used by the defendant at all, as I recollect; if I ever saw it used, it is no part of the invention; if I have, it is more than I know: I worked with him seven years after the patent was granted; I don't know that he ever used it at all.

The next is Joshua Wrigley; he says, I never saw No. 2 used in the business; he has been in the business four or five years, and worked for several gentlemen, not with the defendant, but this was not used. Indeed this was likewise laid out of the question by the counsel for the defendant, for that, he said, had nothing to do with it.

If it had nothing to do with the machine, it is very difficult to say how, with a good motive, it could ever come into the specification or plan.

The next is No. 3. That is described to be a piece of cloth with wool, flax, hemp, or any such materials spread thereon.

No. 3, says Wrigley, I have seen work; that is the feeder. This he produced as the feeder used before the defendant's patent, and performs exactly the same operation as the defendant's; and it is better, because the cotton needs no spreading upon a table, neither does it require taking the cloth off and on, and, according to the defendant's, you must take it off every time the cloth is filled. He says, he has been acquainted with most of the cotton works, and the old feeder is most used.

He says, the specification don't show how No. 3 is to be worked, nor how the cotton is to be taken off, and it shows no roller nor centre.

The next witness is John Lees; he says, he is the inventor of the old feeder, that he made it in 1772, and in August, 1772, he worked with it, and that it is now commonly used in his country. He has never seen the defendant's used, but the description of the defendant's is the same as his.

This also shows, first of all, that it is no new invention.

Secondly, It is not invented by the defendant; for this invention is spoken of as used before the time of the patent; and,

In the next place, it is proved to you not to be the

invention of the defendant, by the person who actually invented it.

Thomas Hall says, he worked with Lees at the time he made the feeder, in July, 1772; that he never saw or heard of it before; that it is better than the defendant's, and much used now.

Henry Marsland tells you, that he used the feeder in 1771; that in 1772 the defendant came to see his works; that he made an objection to his using the feeder. These are all the witnesses that speak to that article, except Immison, who, I see, speaks to it likewise: he says, as to that, there is an objection to it, for the want of a roller, but it is proved by other witnesses it might be made use of without a roller. The defence to that is, though there is no axis, yet it might be made use of, though it would not move with the same regularity, and the work could not be carried on so well as it should.

The first witness upon the part of the defendant is Richard Pridden, who has been in the business for preparing wool and cotton for spinning, fourteen years: he says, the feeder used in this machine was the feeder described by the patent—he don't know that it was in use before. Mr. Moore treats it as an addition only; but he admits the roller is proper, and yet it is not stated.

Mr. Watt says, it would do without the roller; but, if it were necessary, a man must be a great idiot if he has not sense enough to discover it.

The evidence for the prosecution on this article is not at all contradicted; and it is shown that it was invented by the man himself, who proved it by John Lees,—that is not contradicted by any one witness whatever for the defendant; upon the contrary, he is confirmed by one of the witnesses, Hall; and Marsland proved he used it long before the time of the patent. The next is No. 4, that is the crank: Mr. Marsland says, that after he had used the crank, the defendant objected to it; therefore, says he, I gave it up.

But Elizabeth Hargrave tells you, this crank was first used by her husband (and he died about eight years ago) in partnership with James, at Nottingham; that he worked by himself, and took great pains about the crank, and completed it so long ago, that he began working it thirteen or fourteen years since. She says, he carded with it, and took the carding off the cylinder by such a

crank as is now produced; that it took it off exactly the same; that he used it in his factory. She says, the defendant was then in business, and lived at Nottingham; that she never saw the crank any where but in her husband's room. She afterwards told you, when that crank was finished, it was carried down to the shop thirteen years ago and above, and he there worked with it; and when her husband invented it, he employed Whitaker, a smith, to put it in iron.

Then George Hargrave says, his father used the crank in the public shop where all the men worked; this was in 1773, when he came from Lancashire to Nottingham. After the time that he got there, his father had it in public use; that one Bird also used it at the same time in his factory.

It is proved by these witnesses, first, that it was invented between thirteen and fourteen years ago; and that it was not Mr. Arkwright, but Hargrave, who invented it; and it was publicly used in two factories, where men came to work.

If that be so, that will put an end to this article, namely, the crank.

George Whitaker says, he is a smith and frame-maker; that he made many cranks; that Hargrave came to him, and told him he wanted such a machine, and the purpose he wanted it for; and by his directions, and his own judgment, he made a crank like this which is produced, only turning the joints the other way; that it took off the cotton the other way from the cylinder, but exactly the same in other respects; that some call it the taker-off, some the comb, then it got its name. He says, he made some for one Hudson, three for Grimshaw, some in 1773, and one for Lister; and he says, he has made near twenty in the whole. He says, they got into very general use before 1775. It was used in the public shop of James in 1773; that it was worked so much, that in January, 1774, the witness repaired it; there were several brought to repair in 1774, and they were chiefly in use after 1775; that they were never left off as he knew of.

The next witness is Richard Hudson, who says, he made many carding engines in 1774, he thinks some before, but is not sure; these cranks were used then by him; there were cranks in all the engines, and the same as these; that he employed Whitaker to make the cranks;

that he made one for Brotherton, that was in Scotland; another for Smoke in Nottingham; and he made them for Rawson and Co. at Nottingham; and one for Lister, for carding wool.

Then John Bird says, in 1773, he had a crank of his own, used in his own shop, in his cotton manufactory at Nottingham.

Thomas Chatterton says, in January 1774, he saw one at Mr. Bird's at Nottingham; that Hudson made it; and he used it in his manufactory in April 1774, at Ashbourn.

Then Thomas Ragg says, that the cranks were in public use before 1775. He was apprentice to Whittaker the maker: he speaks to the time.

Then as to this article upon the part of the defendant, Mr. Moore contents himself with saying, the specification is clear enough as to that; his evidence does not apply to this part of the case.

Wood says, he never saw the crank in use before Arkwright's.

John Haggett says, he was employed to make one for Mr. Arkwright; that he never knew it used by any person before.

And Thomas Bell likewise says, he never knew it used before Mr. Arkwright used it.

Some of the witnesses have proved them to be made in great numbers, and used in different factories publicly, and they have proved it by the persons who made them.

Upon the part of the defendant, the witnesses never having heard of it may be perfectly true, and yet no contradiction to the evidence for the prosecution.

As to No. 5, the filleted cylinder, Mrs. Hargrave speaks of it, and says, the original cylinder was covered all over with cards; that her husband used it for riband filleting; that he used it about fourteen years ago, but he never brought that to any shop or factory; he thought the other better, and carried that to the shop with the crank.

Then George Hargrave says, it had no fillets that he recollects in 1773; but you observe he did not come till 1773 to Nottingham.

Then Robert Pilkington says, the first engine he was concerned in was made by Richard Livesay and himself in 1770; that it had a filleted cylinder; that he got one that was striped in the fillets like this; that he had a

cylinder that was quite covered that was meant for tumming, the first operation in carding; that it was one continued carding, instead of so many rovings or lengths; he does not know that the filleted cylinder will answer any purpose the other does not.

The next is Thomas Hayes; he says, he has made engines; that he has seen the defendant's about twelve or thirteen years ago; and he says his cylinder was covered over with cards, the same as the one now produced. In 1767 he speaks of making the rollers, and says, he made the machine that made continual roving, as this does; that he had a cylinder like that which was produced, to take off the cotton from the other; this was twelve years ago; he sold them to manufacturers for use; that he made his machine for spinning and roving; that he made it rove and spin with the same rollers, by doing it twice over in the manner he showed to you.

Then upon the part of the defendant, as to this article, Wood mentions at first, and his evidence falls in also with what was said upon the part of the prosecution; that in 1773 it struck him, the cylinder might be entirely carded, and he did it so, and in 1774 he made a full trial of it; he had parallel carding in 1774; he did not make much difference between the roving and spinning machines.

He also proves it used long before the defendant's patent; he confirms what was said by the other witnesses; and what the other witnesses have said against it is nothing at all to this article; for here it is proved to be used in both ways, in the manner the defendant has used it now, and likewise being carded quite through.

Now, if it was in use both ways, that alone is an answer to it; if not, there is another question, Whether the stripe in it makes a material alteration? For if it appears, as some of the witnesses say, to do as well without stripes, and to answer the same purpose, if you suppose the stripes never to have been used before, that is not such an invention as will support the patent; upon that ground it is fully answered.

Then it comes to No. 6. Hayes says he made use of the rollers in 1767, and in the same manner two years after as these were; one was fluted wood upon an iron axis, the other the same, only covered with leather.

Hayes says, he tried the spinning of cotton by the

rollers; he employed one Kay, a clockmaker from Warrington, to make a small model.

John Kay says, he told the defendant that he made these things in the year 1767.—The witness says, the discourse came up about spinning cotton by rollers, and he said, he thought it would answer very well.—Says the defendant, it will never answer, many have ruined themselves by it; notwithstanding Kay persisted, he thought he could do it if he had money. The next morning, before he was out of bed, the defendant came to him, and asked if he could make a small model. He came again, and the witness got the model from Hayes, and told the defendant that he and another person had tried it. Then afterwards he says, he went to the defendant to Nottingham, and worked with him upon the discovery found out by himself and Hayes. Kay is confirmed in it by his wife Sarah Kay.

The next is Neddy Holt. He says, he was employed in 1774 to make these rollers; that the defendant came to him and told him he was an intruder upon his patent, because his roving was the same as his, the defendant's, spinning.

This, I think, is the evidence as to the 6th article.

Then for the defendant, Pridden says, that that which is described as No. 6, is the same that is used, that is, the rollers; but it is admitted it is not stated in the specification of what size they ought to be; and I think the rest of the evidence upon this article goes merely to the description in the specification, and not as to its being a new invention, so that that evidence stands also uncontradicted.

As to Hayes and Kay, there is no contradiction at all to the evidence they have given, namely, that they were made before, and used in the different ways I have stated to you, and that the defendant got the secret from them.

Then the 7th article is what they call the can. Holt says, the only difference between the two, the spinning machine and the present roving machine, is, that the latter has a can; and indeed, that at one time was admitted by the counsel for the defendant.

If it be so, it brings the case to a short point indeed; for if nothing else is new, the question is, Whether it is material or useful? The witnesses upon the part of the prosecution say, it is of no use at all. In the first place, they had that before which answered the same purpose,

though not made exactly in the same form: it was open at top; it twisted round, and laid the thread precisely in the same form, and had the same effect this had; so if it was new, it is of no use; but they say it is not new, for though it was not precisely the same shape, in substance it was the same thing, that is not contradicted.

That part also stands without any contradiction upon the part of the defendant; for the defendant's witnesses satisfy themselves with telling you they think it intelligible, and it might do without the roller, though it might not be so effectual as with the roller. It is admitted by several it could do without; that appeared from the experiment made; they showed you by one of the engines how it did with the roller, and how without; and that it was done without, just the same as with it.

As to Nos. 8 and 9, it is admitted those are entirely out of the cause, and may be used, says the counsel for the defendant, instead of No. 7.

The question they make is, the specification does not import that Nos. 8 or 9 was necessary to be used, and because No. 10 is to be fixed to No. 6 to work Nos. 7, 8, or 9. Now the words of the specification are these: "No. 8 is a machine for twisting the contents of No. 6, in which (d d) is a frame of iron; (h) a roller, upon which a bobbin is fixed; this is turned the same as No. 7, that is, by a dead pulley, or wheel fixed to a wooden frame at (G). Then No. 9 is a spindle and flier fixed to No. 6, for twisting the contents from (b) in No. 6. (a) is a pulley under the bobbin, which hath a communication by a band to No. 10 at (d d), it being a conical or regulating wheel, which moves the bobbin quicker or slower, as required." This is the account given of those two, namely, that nothing imports to be used with No. 7, but, on the contrary, that was to be used instead of them; therefore you may take any one of these things, and it will do.

The first question is, Whether that is the fair construction of this specification? Suppose it was so, it is perfectly clear the defendant has never used either of them, and some of the witnesses tell you they cannot use them at all. One tells you they cannot be used, and therefore it is a little unfortunate they got into this specification, if nothing more was meant than to make a fair discovery of what was useful; but in this manner the description is given.

As to No. 10, nothing is said about it for the defendant. First Mr. Moore said, it was not difficult to conceive it; but there is no witness that says at all what the use of it is: so this seems to stand without any evidence at all.

Gentlemen, thus the case stands as to the several component parts of this machine; and if, upon them, you are satisfied that none of them were inventions unknown at the time this patent was granted, or that they were not invented by the defendant: upon either of these points the prosecutor is entitled to your verdict.

If upon any point you are of opinion with the prosecutor, you will find a verdict for him.

If upon all the points you are of opinion for the defendant, you will find a verdict for him.

Verdict for the Crown.

THE KING *v.* ARKWRIGHT.

Court of King's Bench, November 10, 1785.

Mr. Sergeant Adair moved the Court of King's Bench on behalf of Mr. Arkwright, for a rule to show cause why a new trial should not be granted.

The Learned Sergeant, after mentioning that this question had been the subject of discussion in two trials prior to that which was the subject of the present application, and that each had turned upon the sufficiency or insufficiency of the specification, stated from an affidavit of Mr. Arkwright, that he acquiesced in the verdict against him on the first trial for a considerable time, conceiving the law to be stricter in that respect than he was afterwards advised it was. Upon being given to understand, that there was a different construction of law upon the point, he thought it right to make another trial upon that principle; in consequence of which, he brought a new action, and obtained a verdict. That the sufficiency of the specification, upon the second trial as well as the first, was the only point gone into before the court; and that upon the *scire facias* being brought against him, he was led to suppose that his opponents had already brought forward all their artillery against him, and that the subject of the *scire facias* was only to procure in another shape, a revision of the same question.

He was led to suppose, that upon two trials, upon a

question of such importance, no evidence that appeared material to the party would have been kept back, and he swears that he did not expect them to adduce, after so many trials, evidence to attack the originality of the invention. He went, therefore, into the defence merely of the specification, and came to trial upon the *scire facias* altogether unprepared as to the novelty of the invention, except so far as the witnesses called to explain the specification could accidentally speak upon the subject. It, however, turned out upon the trial, contrary to the expectations of Mr. Arkwright, that the chief force of the evidence was against the originality of the invention, which was a considerable degree of surprise to Mr. Arkwright, who was unprepared with witnesses to contradict it.

The present application to the court rests upon this ground, that Mr. Arkwright states in his affidavit, that for the reasons before mentioned, he was not prepared with that evidence which he would have adduced, and should be able to adduce upon a future occasion, if the court will give him an opportunity, in order to contradict and explain the evidence against him.

Besides his own affidavit, he will produce another affidavit, the purport of which is to state the evidence that could have been given to contradict the evidence of Kay and Mrs. Hargrave, and some others that were material upon that part of the case.

Another point upon which Mr. Arkwright states he was not provided with evidence, not conceiving it a point to be litigated, was, there were some articles in the specification which were supposed to be immaterial, and to be inserted only for the purpose of puzzling and perplexing. It can be proved that some or most of the parts were material, when the machine came to be applied to wool instead of cotton; and the others had actually been used by Mr. Arkwright and his workmen. It was therefore necessary to insert them, in order to cover the whole of what he conceived his invention. It was stated that many of the witnesses called to that point were in the original brief upon the first trial. If so, upon what ground, but that of deceiving and reserving a masked battery of evidence, could it be possible a party in a matter in which he was so much interested would not discover it?

Arthurwright

Ree

v.

Else

If the whole of that evidence had been adduced upon the first, or even on the second trial, there might have been an opportunity, in the further discussion of the business, to procure an examination of that matter, by fresh evidence, or some other way: they ought not to have waited till the trial by *scire facias*, which is the last stage the law admits; the event of which, in the nature of it, is final.

Lord Mansfield.—It is very clear to me, upon your own showing, there is no colour for the rule; the ground of it is, if there is another trial, you may have more evidence. There is no surprise stated; no new discovery; but upon the material points in question, you can give more evidence. There were two questions to be tried, the specification, and the originality of the invention: there has been one trial in this court, another trial in the Common Pleas, where this patent has been questioned, and this proceeding is brought finally to conclude the matter; for it is a *scire facias* to repeal the letters patent. The questions to be tried are stated upon record. There is not a child but must know they were to try the questions there stated; they come prepared to try them; they have tried them; and a verdict has been found, which is satisfactory to the judge; and now you desire to try the cause again, only that you may bring more evidence. There is not a colour for it.—Rule refused.

November 14, 1785.

The Court of King's Bench gave judgment to cancel the letters patent.

THE KING *v.* ELSE.

Sittings after Michaelmas Term, 1785.

THIS was a proceeding by writ of *scire facias* to repeal the patent on the ground that there was no new invention described in the specification. In this case the patent was stated to be for a new invented manufacture of lace called French, otherwise, Ground lace. The specification went generally to the invention of mixing silk and cotton thread upon the frame.* On the

* The specification was in the following words:—

“To all to whom these presents shall come, Arthur Else, of the town of Nottingham, hosier and lace manufacturer, sendeth greeting.

part of the prosecutor, it was clearly shown that, prior to the patent, silk and cotton thread had been used together, and intermixed upon the same frame; and the defendant's

Whereas His Sovereign Majesty King George the Third, by his Royal Letters Patent, under the great seal of Great Britain, bearing date at Westminster, the 29th day of October, in the twentieth year of his reign, reciting, amongst other things, that the said Arthur Else, had by his petition represented to his said Majesty that, by great study, labour, and expense, he, the said Arthur Else, had invented and brought to perfection a certain new invented manufacture of lace, called French or wire ground lace, which is much stronger than any hitherto invented or found out, and also of an entire new construction; his said Majesty did give and grant unto the said Arthur Else, his executors, administrators and assigns, his said Majesty's especial licence, full power, sole privilege, and authority, that he, the said Arthur Else, his executors, administrators, and assigns, and every of them, by himself or themselves, or by his or their deputy or deputies, servants, or agents, or such others as he the said Arthur Else, his executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter, during the term of years therein expressed, should, and lawfully might, make, use, exercise, and vend his said invention within that part of his said Majesty's kingdom of Great Britain called England, his dominion of Wales, and town of Berwick-upon-Tweed, in such manner as to him, the said Arthur Else, his executors, administrators, and assigns, or any of them, should in his and their discretions seem meet, and that he the said Arthur Else, his executors, administrators, and assigns, should, and lawfully might, have and enjoy the sole profit, benefit, commodity, and advantage from time to time coming, growing, accruing, and arising, by reason of the said invention, for and during the term of years therein mentioned, to have, hold, exercise, and enjoy the said licence, powers, privileges, and advantages, thereinbefore granted or mentioned to be granted unto the said Arthur Else, his executors, administrators, and assigns, for and during and unto the full end and term of fourteen years, from the date of the said letters patent next and immediately ensuing, and fully to be complete and ended, according to the statute in such case made and provided; in which said letters patent is, amongst other things, contained a proviso, that if the said Arthur Else should not particularly describe and ascertain the nature of his said invention, and in what manner the same is to be performed, by an instrument in writing under his hand and seal, and cause the same to be enrolled in his Majesty's High Court of Chancery, within four calendar months next and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever thereby granted should utterly cease, determine, and become void, anything thereinbefore contained to the contrary in anywise notwithstanding as in and by the said letters patent (relation being thereunto had) may and doth more fully and at large appear. Now these presents witness that, in pursuance of the said letters patent, and in conformity to the proviso therein contained, the said Arthur Else hath described and ascertained, and by these presents doth fully and particularly describe and ascertain the nature of his said new invented manufacture of lace, called French or wire ground lace, and also the manner of working the same (that is to say):—by mingling, mixing, or twisting a fine thread of silk, or such

Else.

Turner v. Winter

OF PATENT CASES.

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counsel acknowledged the fact, but said, he could prove clearly that the former method of using the silk and cotton thread was quite inadequate to the purpose of making lace, on account of its coarseness; and that the defendant alone had invented the method of intermingling them, so as to unite strength with firmness.

Mr. Justice Buller.—It will be to no purpose. The patent claims the exclusive liberty of making lace composed of silk and cotton thread mixed; not of any particular mode of mixing it, and therefore, as it has been clearly proved and admitted, that silk and cotton thread were before mixed on the same frame for lace in some mode or other, the patent is clearly void, and the jury must find for the Crown.—Verdict for the Crown.

Spencer claiming a broad feather a principle the principle must be new in all its parts as claimed otherwise Spencer has.

TURNER v. WINTER.

In the Court of King's Bench, February 5, 1787.

THIS was an action on the case brought against the defendant, for infringing the plaintiff's patent, which was granted to him for producing a yellow colour, for painting in oil or water, and making white lead, and separating the mineral alkali from common salt, all by one process.*

other material that may answer the purpose of silk, to and with thread, flax, hemp, cotton, or any other manufacture, which usually hath been or may be worked on a stocking-frame, which addition of silk to thread, flax, hemp, cotton, or other manufacture, gives strength, firmness, and durability to the work, binding the other materials, and preventing the same being, or appearing to be, so rowey and uneven as works of that sort are and hitherto have been without such addition. The manner of working the same is as is common in the making or working open-work, eyelet-hole, net-work, or lace-work, and on the stocking-frame, with the addition of the machine fixed thereto, and which is commonly and usually worked and made use of in the making of any such work, or by such other engine or machine by which any such work can or may be made, and may be made to any particular stitch that the workman may think proper, which is a full and true description of the said invention, and in what manner the same is to be performed. In witness whereof, the said Arthur Else hath hereunto set his hand and seal this twenty-fourth day of November, in the year of our Lord one thousand seven hundred and seventy-nine.

"ARTHUR ELSE."

* The specification was in the following words:—

"To all to whom these presents shall come, I, James Turner, of the city of Westminster, gentleman, send greeting. Whereas I, the said James Turner, did by my petition humbly represent to his present Most Excellent Majesty, King George the Third, that I had, after much appli-

On the trial before Mr. Justice Buller, at the sittings at Westminster, a verdict was found for the plaintiff; and on a motion to set aside that verdict, a rule was granted.

cation and many trials, attended with expense, invented and brought to perfection *a method of producing a yellow colour for painting in oil or water, making white lead, and of separating the mineral alkali from common salt, all to be performed in one single process*, which would be of great public utility. And that in regard I was the first and true inventor thereof, and that the same had not been used by any other person or persons to the best of my knowledge and belief. I therefore most humbly prayed his said Majesty, that he would be graciously pleased to grant unto me, my executors, administrators, and assigns, his Royal Letters Patent for the sole use and benefit of my said invention within that part of his said Majesty's kingdom of Great Britain called England, his dominion of Wales, and town of Berwick-upon-Tweed, for the term of fourteen years, according to the statute in such case made and provided. His Majesty being willing to give encouragement to all arts and inventions which might be for the public good, was graciously pleased to condescend to my request. And, therefore, by his Royal Letters Patent, under his great seal of Great Britain, bearing date at Westminster, the 26th day of February, in the twenty-first year of his reign, of his special grace, certain knowledge, and mere motion, for himself, his heirs, and successors, did give and grant unto me, the said James Turner, my executors, administrators, and assigns, his special licence, full power, sole privilege, and authority, that I, the said James Turner, my executors, administrators, and assigns, and every of them, by myself and themselves, or by mine or their deputy or deputies, servants, or agents, or such others as I, the said James Turner, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time, and at all times thereafter, during the term of years therein expressed, should, and lawfully might, make, use, exercise, and vend my said invention, within that part of his said Majesty's kingdom of Great Britain called England, the dominion of Wales, and town of Berwick-upon-Tweed, in such manner as to me, the said James Turner, my executors, administrators, and assigns, or any of us, should in our discretion seem meet. And that I, the said James Turner, my executors, administrators, and assigns, should, and lawfully might, have and enjoy the whole profit, benefit, commodity, and advantage, from time to time coming, growing, accruing, and arising, by means of the said invention, for and during the term of years therein mentioned, to have, hold, exercise, and enjoy the said licence, powers, privileges, and advantages, thereinbefore granted, or mentioned to be granted, unto me, the said James Turner, my executors, administrators, and assigns, for and during and unto the full end and term of fourteen years from the date of the said letters patent, next and immediately ensuing, and fully to be complete and ended, according to the statute in such case made and provided. In which said letters patent is contained a proviso, that if I, the said James Turner, should not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing, under my hand and seal, and cause the same to be enrolled in his said Majesty's High Court of Chancery within four calendar months next, and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever, thereby granted,

On the part of the plaintiff evidence was given at the trial, that the first effect of the process was the separating of the mineral alkali from common salt; that that produced white lead; and that by continuing the process to a certain degree, and afterwards exposing the matter, the yellow colour was produced. That, as the specification required the heat to be continued till the colour was obtained, any person, trying the experiment, would necessarily be led to fusion. That a chemist would see by the specification that, if less heat would not answer the purpose, he must go on to fusion. The difference between fusion and calcination, both of which proceed from different degrees of heat operating upon the subject matter, was, that the substance to be calcined continued in a solid form; whereas fusion is a liquid state to which the substance may be reduced by continuing the heat. Instances were produced by persons who had made the colour by the help of the specification, after trying some experiments. In trying those experiments, minium had been fused in the first instance. The white lead produced

should cease, determine, and become void, anything thereinbefore contained to the contrary thereof in anywise notwithstanding in and by the said in part recited letters patent (relation being thereunto had) may more fully and at large appear. Now know ye, that I, the said James Turner, in compliance with the said proviso, do hereby describe and ascertain the nature of my said invention, and declare that the same is to be performed in manner following, (that is to say):—

“Take any quantity of lead, and calcine it; or minium, or red lead, or litharge, lead ash, or any calx or preparation of lead fit for the purpose. To any given quantity of the above-mentioned materials, add half the weight of sea salt, with a sufficient quantity of water to dissolve it; or rock salt, or sal gem, or fossil salt, or any marine salt, or salt water proper for the purpose. Mix them together by trituration, till the lead becomes impalpable or sufficiently comminuted. When the materials have been ground, let them stand for twenty-four hours, in which time the lead will be changed to a good white, and the salt decomposed; if not the trituration must be repeated, with the further addition of salt, till the white colour be obtained. The decomposition of the salt may also be brought about by digestion or by calcination. The materials may be suffered to remain together before the alkali be separated by the addition of water for a longer time than is specified above, according to the discretion of the operator and the end he wishes to obtain. The yellow colour is produced by calcining the lead after the alkali has been separated from it, till it shall acquire the colour wanted; this will be of different tints according to the continuance of the calcination or the degree of heat employed. The white lead must be finished by repeated ablutions, and by bleaching it till the white be made perfect.—In witness whereof, &c.

“JAMES TURNER.”

by following the directions in the specification was not what was sold as such, but a white substance, the basis of which was lead.

For the defendant evidence was given, that the patent colour could not be made by following the directions of the specification; for calcination was not sufficient to produce the effect intended: it was necessary to go on to fusion. That, as it appeared upon the specification, minium, or red lead, might be considered most convenient for the purpose, because a previous process was necessary to reduce lead to minium, or litharge, before the other parts of the process were to be begun; minium and litharge differing only in having undergone different degrees of calcination. But that minium would not produce the effect unless first fused. And that if red lead were calcined, the experiment would not succeed without fusion; whereas, according to the terms of the specification, fusion should be cautiously avoided. That the specification was calculated to mislead, also, with respect to the salts. For fossil salt is a generic term, including all mineral salts: but only one species of fossil salt, namely, sal gem, has marine acid, without which the colour could not be produced. That several persons had tried to make white lead by the specification, but had not succeeded. They could only produce a greyish white powder, quite unfit for painting, and not merchantable.

Mr. Justice Buller, after reporting these facts, observed, that at the trial three objections had been taken to the specification; 1st, That after directing that lead should be calcined, it directed another ingredient to be taken which would not answer the purpose, namely, minium. Neither was it said that the minium should be calcined or fused; but if it had any reference to the preceding words, then it should be calcined, which would not produce the effect, fusion being necessary. 2dly, That "fossil salt" was improperly mentioned. There were many kinds of fossil salt, only one of which, namely, "sal gem," would answer the purpose; because it must be a marine salt. 3dly, That all these things put together did not produce the thing intended. And that the patent was for an invention to do three things in one process, whereas one of them, namely, white lead, could not be produced at all; for that a white substance like lead remained applicable only to some of the purposes of com-

*Shows that if it
directed properly
ingredients, or improper
mode of using them
state incorrectly state
results from the
use of the same.*

mon white lead. The Learned Judge then said, that at the trial he had told the jury, that, if either of these objections were well founded, it would avoid the patent.

Messrs. Erskine and Pigott showed cause against the rule for granting a new trial, and contended, that, in actions for infringing patents, it is not necessary for the plaintiff to give any evidence to shew what the invention is; but that it is incumbent on the defendant, if he objects to the specification, to show that it is defective; and that persons unacquainted with the subject could not, by the assistance of the specification, effect the thing intended. The consideration which the patentee gives for his monopoly is, the benefit which the public are to derive from his invention, after his patent is expired; and that benefit is secured to them by means of a specification of the invention. But it is not necessary that that specification should be such as that persons unacquainted with the terms of art, which must necessarily be used in writing it, should be able to understand it. It is sufficient, if persons of skill can understand the process, by means of the specification, so as to keep alive the discovery, after the patentee's exclusive title is expired.

The first objection which has been raised against the sufficiency of this specification has no weight; for, though the direction to calcine is applicable to all the ingredients in the first part of the description, yet scientific persons would instantly discover what degree of heat was necessary to be used to each of those ingredients; and that minium, being already a calx, must be fused. 2dly, The heat is ordered to be continued till the experiment succeeds, and the colour is produced. Fusion is a necessary consequence of continuing the heat; and this direction would be sufficiently understood by all persons acquainted with the subject.

As to the second objection, with respect to the "fossil salt." The specification begins with "sea salt," which is the genus; then it states, not "any fossil salt," but "fossil salt," or "any marine salt:" the marine salt is, therefore, the basis of the experiment. So that no fossil salt, but what is likewise a marine salt, can be taken under this description.

The answer to the third objection is, that a species of white lead is produced, though not the common ceruse; and the patent does not profess to make the common

white lead. Besides, the making of white lead was not the subject of the present action, which was for making the yellow colour; this accounts for the plaintiffs not being prepared to prove this part of the specification. Upon the whole, this was a mere matter of evidence, as to the sufficiency of the specification upon which the jury have exercised a sound discretion.

Mr. Bearcroft, in support of the rule, was stopped by the Court.

Mr. Justice Ashhurst.—I think that, as every patent is calculated to give a monopoly to the patentee, it is so far against the principles of law, and would be a reason against it, were it not for the advantages which the public derive from the communication of the invention after the expiration of the time for which the patent is granted; it is therefore incumbent on the patentee to give a specification of the invention in the clearest and most unequivocal terms of which the subject is capable. And if it appear that there is any unnecessary ambiguity affectingly introduced into the specification, or anything which tends to mislead the public; in that case the patent is void. Here it does appear to me, that there is at least such a doubt on the evidence, that I cannot say this matter has been so fully and fairly examined as to preclude any farther investigation of the subject. Three objections have been made to this specification: the first is, that in the specification the public are directed "to take any quantity of lead, and calcine it, or minium, or red lead, from whence it is inferred, that *calcining* is only to be applied to *lead*; I confess if the objection had rested here, I should have entertained some doubt.

The next objection is, that in the subsequent materials to be added, the public are directed to add "half the weight of sea salt, or sal gem, or fossil salt, or any marine salt." Now "fossil salt" is a generic term, including "sal gem" as well as other species of fossil salt. And I understand that sal gem is the only one which can be applied to this purpose; so that throwing in *fossil salt* can only be calculated to raise doubts and mislead the public. Those words could not have been added with any good view; it must produce many unnecessary experiments; therefore, in that respect the specification is not so accurate as it ought to have been.

Another objection was taken as to the white lead; to

Spec. inconsistent with the principles of law, unless clear & unequivocal in its terms.

Designed ambiguity, & any thing tending to mislead - fatal to Spec.

which it was answered, that the invention did not profess to make common white lead. But that is no answer; for if the patentee had intended to produce something only like white lead, or answering some of the purposes of common white lead, it should have been so expressed in the specification. But in truth the patent is for making white lead and two other things by one process. Therefore, if the process, as directed by the specification, does not produce that which the patent professes to do, the patent is void. It is certainly of consequence that the terms of the specification should express the invention in the clearest and most explicit manner; so that a man of science may be able to produce the thing intended without the necessity of trying experiments.

Mr. Justice Buller.—Many cases upon patents have arisen within our memory, most of which have been decided against the patentees, upon the ground of their not having made a full and fair discovery of their inventions. Whenever it appears that the patentee has made a fair disclosure, I have always had a strong bias in his favour; because in that case he is entitled to the protection which the law gives him. When attempts are made to evade a fair patent, I am strongly inclined in favour of the patentee; but where the discovery is not fully made, the Court ought to look with a very watchful eye, to prevent any imposition on the public. Then the question is, Whether the plaintiff has made a fair discovery? I do not agree with the counsel who have argued against the rule, in saying that it was not necessary for the plaintiff to give any evidence to show what the invention was, and that the proof that the specification was improper lay on the defendant; for I hold that a plaintiff must give some evidence to show what his invention was, unless the other side admit that it has been tried and succeeds. But wherever the patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must show in what his invention consists, and that he produced the effect proposed by the patent in the manner specified. Slight evidence of this on his part is sufficient; and it is then incumbent on the defendant to falsify the specification. Now in this case no evidence was offered by the plaintiff, to show that he had ever made use of the several different ingredients mentioned in the specification; as, for instance, minium, which he had nevertheless inserted

Many patents lost for want of a full & fair discovery of the invention in the spec.

in the patent ; nor did he give any evidence to show how the yellow colour was produced. If he could only make it with two or three of the ingredients specified, and he has inserted others which will not answer the purpose, that will avoid the patent. So if he makes the article for which the patent is granted with cheaper materials than those which he has enumerated, although the latter will answer the purpose equally well, the patent is void, because he does not put the public in possession of his invention, or enable them to derive the same benefit which he himself does.

As to the first objection which has been taken with respect to the minium : it was not pretended by any of the plaintiff's witnesses that he ever made use of minium. And it was proved by the defendant's witnesses, that from the specification they should be led to use minium, because minium is lead already calcined, which is what the specification directs in the first instance. But minium will not answer the purpose. Then as to fusion : it is said that the public are directed by the words of the specification to continue the heat till the effect is produced ; which must necessarily lead to fusion, though fusion is not expressly mentioned. But that is no answer to the objection ; for the specification should have shewn by what degree of heat the effect was to be produced. Now it does not mention the fusion ; and, as one of the witnesses said, in order to produce the effect, "you must go out of the patent," for fusion is beyond calcination, and in some sense contrary to it ; and by mentioning calcination, it should seem that fusion was to be avoided.

The next objection was as to the salts. "Fossil salt" is mentioned as a distinct species of salt, and many other salts are also mentioned as indifferent whether one or the other be used. But it was proved that fossil salt was a generic term, including several species, and that "sal gem" was the only species of it which would answer the purpose, because none of the others contained a marine acid, which was essential.

There was no contradiction by the witnesses on the third objection ; for the most that the plaintiff's witnesses said was, that, following the specification, the experiment only produced a white substance like lead.

Now, on either of these grounds, the patent is void.

Because if the patentee says, that by one process he can produce three things, and he fails in any one; the consideration of his merit, and for which the patent was granted, fails, and the Crown has been deceived in the grant. Slight defects in the specification will be sufficient to vacate the patent. In a case before Lord Mansfield for infringing a patent for steel trusses, it appeared that the patentee in tempering the steel rubbed it with tallow, which was of some use in the operation; and because this was omitted, the specification was held to be insufficient, and the patent was avoided.*

Rule absolute.

*Failure in any
process of a result
said to accord
from a process
claimed - under
specimen in affidavit
specimen of steel
small, material
point invalidates
specimen amended
(unless done then)*

HAYNE AND ANOTHER v. MALTBY.

In the Court of King's Bench, November 17, 1789.

THIS was an action of covenant on articles of agreement, which recited that the plaintiffs were assignees of T. Taylor, of a patent for an engine or machine to be fixed to a common stocking-frame, for making a sort of net or open work, called point net; and that the defendant had applied to the plaintiffs for their permission to use a stocking-frame to one of their patent machines, to which they had consented, on condition of his working it in the manner described in the specification; and then stated a covenant by the plaintiffs with the defendant, that he should, during the remainder of the term of the letters patent, freely use and employ one stocking-frame, with their patent engine or machine thereto, in case the same should be worked only in the manner described by the specification, without any interruption by them; and also a covenant by the defendant, that he would not, during the residue of the term of the letters patent, use or employ any of the patent engines, or any engines resembling the same, except the stocking-frame and machine in the articles allowed to be employed by him. The declaration then averred enjoyment by the defendant without any interruption from the plaintiffs; and then assigned two breaches; one for using and employing patent engines or machines, other than and besides that

* If a similar case to this were now to occur, the specification might be amended under Lord Brougham's Act, even after a verdict and judgment similar to the above, *Morgan v. Seaward*.

by the agreement allowed to be employed by him; the other for using engines or machines resembling the patent machines.

To this there were several pleas; the three last of which only are material here. The third plea set forth the letters patent, which stated a petition by the patentee, calling himself the inventor of the machine, and contained the usual proviso, that they should be void, if the patentee did not enrol a specification of his invention in Chancery in four months; and then averred, that the patentee did not enrol such specification.

The defendant, in his fourth plea, said, that the invention mentioned in the patent was not a new invention; and in the fifth, that the invention was not discovered by Taylor, the patentee.

The plaintiffs demurred to the third, fourth, and fifth pleas; because the defendant attempted to put in issue matters foreign to the merits of the cause, inasmuch as he was estopped by his deed from putting those matters in issue here.

Mr. Wigley, in support of the demurrer, contended, that the defendant was estopped by his deed to say that this was not a new invention, or that it was not discovered by the patentee. Wherever a party has entered into a specialty, he cannot afterwards be permitted to say that he received no consideration for it, though he may plead that the consideration was illegal. In *Oldham v. Langmead*, tried before Lord Kenyon, at the sittings after Trinity Term, 1789, where the action was brought by the assignee of the patentee against the patentee, his Lordship would not permit the latter to show that it was not a new invention against his own deed. If, in point of fact, this were not a new invention, the defendant should have repealed the letters patent by *scire facias*, and then applied to the Court of Chancery to have had the deed delivered up to be cancelled. But by his deed he has admitted that the plaintiffs had a title; and, as long as the term mentioned in it exists, he is estopped from denying it; in the same manner that a tenant, who holds under a demise from his landlord is, in answer to an action for rent.

Mr. Chambre, on the other side, argued that the defendant is not estopped by his deed to show that he has entered into this covenant, not only on an illegal consideration, but also without any consideration. A person

cannot indeed aver against a record, though he may against the operation of it. Here then, as the deed recites that the plaintiffs were in possession of a patent, the defendant is perhaps estopped to deny it; but it cannot estop him from denying the operation of it. In this indenture, the plaintiffs do not assign the patent to the defendant; they only covenant that the defendant may use the engine in a certain manner, which he might have done without the covenant. For on this record it must be taken that the invention was not new; and then this is a covenant without consideration, or entered into for an illegal consideration; because it operates in restraint of trade. In *Mitchell v. Reynolds*, 1. P. Williams, 181, it was held that a covenant in restraint of trade in a particular place, if without consideration, or in restraint of trade generally, was void. And this also answers the argument of estoppel; for no deed of this sort can operate by way of estoppel, as it is against public policy. Neither could it be necessary for the defendant to sue out a *scire facias* to repeal the patent, before he disputed its validity; because in all actions brought by a patentee for infringing the patent, it is incumbent on him to make out his right.

Mr. Wigley, in reply, contended that this is not a void consideration; but, if it were, it will not avoid a deed in a court of law. With respect to this being in restraint of trade; though a covenant not to set up a trade generally be bad, yet the party may covenant not to set up a trade in a particular place; and the covenant in this instance is similar to the latter; for it is a covenant not to use a particular machine. Even admitting this patent to be void, this is not so hard a case as that of a tenant who may be compelled to pay rent to a person having a title paramount to his landlord's, and who is nevertheless estopped to impeach his landlord's title in an action for the same rent.

Lord Chief Justice Kenyon.—The facts of this case are shortly these: the plaintiffs, pretending to derive a right under a patent, assigned to the defendant part of that right on certain terms; and, notwithstanding the facts now disclosed show that they have no such privilege, they still insist that the defendant shall be bound by his covenant, though the consideration of it is fraudulent and void. This is not to be considered as a covenant to

pay a certain sum in gross, at all events; but to use a machine in a particular way, in consideration of the plaintiffs having conferred that interest on the defendant, which they professed to confer by the agreement. Now in point of conscience, it is impossible that two persons can entertain different ideas upon the subject. But it is said, that though conscience fails, the defendant is estopped in point of law from saying that the plaintiffs had no privilege to confer. But the doctrine of estoppel is not applicable here. Where indeed an heir apparent, having only the hope of succession, conveys, during the life of his ancestor, an estate, which afterwards descends upon him: although nothing passes at that time, yet when the inheritance descends upon him, he is estopped to say that he had no interest at the time of the grant. There an estoppel is founded on law, conscience, and justice; but what is the case here? Who is estopped? The person supposed to be estopped is the very person who has been cheated and imposed upon. In the case *Oldham v. Langmead*, the patentee had conveyed his interest in the patent to the plaintiff; and yet, in violation of his contract, he afterwards infringed the plaintiff's right, and then attempted to deny his having had any title to convey. But I was of opinion that he was estopped by his own deed from making that defence. But there is no similarity between that and the present case. Neither does this resemble the case of landlord and tenant; for the tenant is not at all events estopped to deny the landlord's title: the estoppel only exists during the continuance of his occupation; and if he be ousted by a title paramount, he may plead it.

Mr. Justice Ashhurst.—This is a good plea; and the defendant is not estopped from disclosing any of the matters contained in it. This is not like the case of landlord and tenant: as long as the tenant enjoys the estate, he shall not be permitted to deny his landlord's title; for he has a meritorious consideration; but when he is expelled by a person having a superior title, he may plead it. But this is a case of a very different kind. The plaintiffs use this patent as a fraud on all mankind; and they state it to be an invention of the patentee, when in truth it was no invention of his. The only right conferred on the defendant by this agreement, was that of using this machine, which was no more than that which he, in

common with every other subject, has without any grant from the plaintiffs.

Mr. Justice Buller.—In the construction of all covenants and agreements, the Court has universally considered the intention of the parties. Now here the plaintiffs asserted that they had an exclusive right to a particular machine; and if they had, they might convey it to any other person. They then came to an agreement with the defendant, by which they covenanted, that he should be at liberty to use the patent machine, of which they were then in possession, provided he would use it in the manner therein specified; in consideration of which, he covenanted not to use any other machine. But it is now discovered that they had no such right, and therefore the defendant has not the consideration for which he entered into this covenant; and notwithstanding which, they insist that he is still bound. I think that the case of landlord and tenant is not unlike this; for the facts in this case, disclosed by the pleas, are equivalent to an eviction of the tenant. As long as the tenant holds under the lease, he is estopped from denying his landlord's title; but when he is evicted, he has a right to show that he does not enjoy that which was the consideration for his covenant to pay the rent, notwithstanding he has bound himself by the covenant.*

Mr. Justice Grose declared himself of the same opinion. Judgment for the defendant.

BOULTON AND WATT v. BULL.

In the Court of Common Pleas, May 16, 1795.

THIS was an action on the case for infringing a patent.†
The first count of the declaration stated, that the King

* It is now the practice in licenses under patents to recite that the patentee was the first and true inventor, and that he had fully described and ascertained the invention by a specification which he had duly enrolled according to the proviso in the letters patent, by which recitals a licensee is estopped from pleading that there is no new invention, or that there is no specification, or that the specification does not describe and ascertain the invention.

† The specification was in the following words:—

"To all to whom these presents shall come.—I, James Watt, of Glasgow (now of Birmingham), Engineer, send greeting.—Whereas, his present Most Excellent Majesty George the Third, by his letters

by letters patent, under the great seal, dated 5th January, 9 Geo. III. granted to the petitioner, James Watt, the

patent under the great seal of Great Britain, bearing date at Westminster the fifth day of January, in the ninth year of his reign, did give and grant unto me the said James Watt, my executors, administrators, and assigns, his especial license, full power, sole privilege and authority, that I, the said James Watt, my executors, administrators, and assigns, should and lawfully might during the term of years therein expressed, make, use, exercise, and vend, within that part of His Majesty's kingdom of Great Britain called England, his dominion of Wales, and town of Berwick-upon-Tweed, my invention of a method of lessening the consumption of steam and fuel in fire-engines. In which said recited letters patent is contained a proviso obliging me, the said James Watt, by an instrument in writing under my hand and seal, to cause a particular description of the nature of my said invention, and in what manner the same is to be performed, to be enrolled in His Majesty's High Court of Chancery within four calendar months next and immediately after the date of the said letters patent, as in and by the said letters patent relation being thereunto had, may more at large appear.—Now know ye, that my method of lessening the consumption of steam, and consequently fuel, in fire-engines, consists of the following principles: First, that vessel in which the powers of steam are to be employed, to work the engine which is called the cylinder in common fire-engines, and which I call the steam-vessel, must, during the whole time the engine is at work, be kept as hot as the steam that enters it; first, by enclosing it in a case of wood, or any other materials that transmit heat slowly; secondly, by surrounding it with steam, or other heated bodies; and, thirdly, by suffering neither water, nor any other substance colder than the steam, to enter or touch it during that time. Secondly, in engines that are to be worked wholly or partially by condensation of steam, the steam is to be condensed in vessels distinct from the steam vessels, or cylinders, although occasionally communicating with them; these vessels I call condensers; and, whilst the engines are working, these condensers ought at least to be kept as cold as the air in the neighbourhood of the engines, by application of water, or other cold bodies. Thirdly, whatever air or other elastic vapour is not condensed by the cold of the condenser, and may impede the working of the engine, is to be drawn out of the steam vessels, or condensers, by means of pumps, wrought by the engines themselves, or otherwise. Fourthly, I intend, in many cases, to employ the expansive force of steam to press on the pistons, or whatever may be used instead of them, in the same manner as the pressure of the atmosphere is now employed in common fire-engines: in cases where cold water cannot be had in plenty, the engines may be wrought by this force of steam only, by discharging the steam into the open air after it has done its office. Fifthly, where motions round an axis are required, I make the steam-vessels in form of hollow rings, or circular channels, with proper inlets and outlets for the steam, mounted on horizontal axles, like the wheels of a water-mill; within them are placed a number of valves, that suffer any body to go round the channel in one direction only; in these steam vessels are placed weights, so fitted to them as entirely to fill up a part or portion of their channels,

sole benefit and advantage of making, exercising, and vending a certain invention of him the said James Watt; being a method by him invented, of lessening the consumption of steam and fuel in fire-engines, for the term of fourteen years, with a proviso for a specification, &c., in the usual manner. It then stated, that by an Act of Parliament, passed 15 Geo. III. the benefit of the patent was extended to twenty-five years, to the said James Watt and his assigns: that on the 5th of September, 1777, he assigned two-thirds of the patent right to Boulton, the other plaintiff, for the remainder of the term of twenty-five years, and that the defendant, against the consent of the plaintiffs, made, constructed, and sold divers engines, in imitation of the said engine so invented and found out by the said James Watt, and of the like nature and kind, in breach of the said Act of Parliament, and against the privilege granted to the said James Watt as aforesaid. The second count was for making and constructing (omitting selling) engines, &c., similar to the first count. The third count was for making, constructing, and selling engines, &c. partly in imitation as before. The fourth, for making and constructing engines partly in imitation, &c. The fifth, for using and putting in practice the invention of the said plaintiff, James Watt. The sixth, for using and putting in practice part of the said invention. The seventh, for counterfeiting. The eighth, for imitating.

yet rendered capable of moving freely in them, by the means hereinafter mentioned or specified. When the steam is admitted in these engines, between these weights and the valves, it acts equally on both, so as to raise the weight on one side of the wheel, and, by the re-action on the valves, successively, to give a circular motion to the wheel, the valves opening in the direction in which the weights are pressed, but not in the contrary; as the steam vessel moves round, it is supplied with steam from the boiler, and that which has performed its office may either be discharged by means of condensers, or into the open air. Sixthly, I intend, in some cases, to apply a degree of cold, not capable of reducing the steam to water, but of contracting it considerably, so that the engines shall be worked by the alternate expansion and contraction of the steam. Lastly, instead of using water to render the piston or other parts of the engine air and steam tight, I employ oils, wax, resinous bodies, fat of animals, quicksilver, and other metals, in their fluid state,—In witness whereof, &c.

"JAMES WATT."

"Be it remembered that the said James Watt doth not intend that anything in the fourth article shall be understood to extend to any engine where the water to be raised enters the steam vessel itself, or any vessel having an open communication with it."

The ninth, for resembling. The tenth, for counterfeiting in part. The eleventh, for imitating in part; and the twelfth, for resembling in part the said invention.

The general issue was pleaded; and the cause came on to be tried before the Chief Justice at the sittings after Trinity term, 1793, and the jury found in favour of the plaintiff on all the issues. A case was reserved for the opinion of the Court, which stated, that his Majesty, by letters patent, dated the fifth of January, in the ninth year of his reign, granted to the plaintiff, James Watt, his special license, full power, sole privilege, and authority, that he, the said James Watt, his executors, administrators, and assigns, should, and lawfully might, during the term of fourteen years therein mentioned, make, use, exercise, and vend, throughout England, Wales, and Berwick-upon-Tweed, and the colonies and plantations abroad, his, the said James Watt's, new invented method of lessening the consumption of steam and fuel in fire-engines, with the usual proviso for enrolling a specification. That the said James Watt did, in pursuance of such proviso, cause a specification or description of the nature of the said invention to be enrolled in the Court of Chancery.

This case also stated that in the fire-engines referred to in the specification, and which were in use prior to the patent in question, motion was given to the piston by the pressure of the atmosphere acting upon one side of it, while a vacuum or certain degree of exhaustion was produced on the other side, within the steam vessel denominated the cylinder, by means of the injection of cold water, whereby the steam (introduced below the piston at each stroke of the engine) was condensed; which operation, prior to the invention of the said James Watt, was always performed in the steam vessel or cylinder itself. When the steam had been condensed, and the piston had descended, such portions of air and water as remained under it, within the steam vessel or cylinder, were expelled through valves, by the next succeeding steam from the boiler, and that steam counterbalancing the pressure of the atmosphere on the upper surface of the piston, allowed the piston to rise up with that end of the lever to which it was attached, while the other end of the lever, and the matters attached thereto, descended by reason of their greater comparative weight, and thus the engine was restored to that state in which it was previous to the

first condensation. The steam was admitted through a pipe from a distinct vessel called the boiler, where it was generated, which occasionally communicated with the cylinder by means of a valve, which was opened and shut by the action of the engine. The injection of cold water was in like manner admitted, as occasion required, into the cylinder, through a pipe from another distinct vessel containing cold water, called the injection cistern, by means of a cock or valve, which was also opened and shut by the action of the engine, and such pumps as were used in these engines were also wrought by the engines themselves. It was further stated, that the construction and use of pumps for drawing out air, elastic vapour, or water, from places or vessels where a vacuum or exhaustion was required, were known and practised before the obtaining the letters patent above mentioned, but had not been applied to the cylinders or condensers of steam-engines. It was also stated, that condensing in separate vessels in distilling was well known. The invention consisted in condensing the steam out of the vessel in which it acted, also for using an air pump to remove the air from the cylinder. In addition to these points, there were some minor details claimed, such as using wood, or other more conducting material, to cover the external of the steam cylinder. The specification also claimed to work by steam pressure without condensation, and also a claim was made to a rotatory steam-engine, which was never of any use.

This cause came before the Court on this special case after a verdict in favour of the patent. The questions submitted were, first, whether the said patent was good in law, and continued by the Act of Parliament before mentioned. Second, whether the specification in point of law was sufficient to support the patent.

The case was argued by *Mr. Sergeant Adair* for the plaintiffs, and *Mr. Sergeant Williams* for the defendant.

It was contended by *Mr. Sergeant Adair*, in behalf of the plaintiffs, that the patent was good in law, being for a newly discovered method of producing an important effect in the use of the old steam-engine, and comes within the provision of the stat. 21 Jac. I. c. 3. s. 6. By every fair rule of construction, the words working or making any manner of new manufactures, must include the invention of the plaintiffs. The term manufacture means any thing

made or produced by art, and the method or invention for which the patent is granted is to produce an effect by artificial means, by which the consumption of fuel shall be lessened in steam-engines. Whether the word method be used as in the patent, or engine as in the Act for continuing it, the meaning is the same, and the Court will not deprive the plaintiffs, the merit and utility of whose invention is admitted on all sides, of the benefit of that invention by mere verbal criticism.

Mr. Justice Heath.—When a mode of doing a thing is referred to something permanent, it is properly termed an engine; when to something fugitive, a method.

Mr. Sergeant Adair.—This patent is not expressed in terms new or unusual; almost all the patents upon record, that have been granted to those who have made discoveries or improvements in the mechanical arts, being for the method of doing the thing, and not for the thing done.

Mr. Justice Heath.—Is there any instance of a patent for a mere method?

Mr. Sergeant Adair.—The patent granted to Dollond, for his improvement in making the object glasses of telescopes, was for “an invention of a new method of making the object glasses of refracting telescopes.” So also Hartley’s patent was for his method of securing buildings from fire. So likewise are the numerous patents that have been granted for the different improvements which have been made of late years in chemistry and medicine (many patents of this kind were cited). The patent therefore of the plaintiffs is good in law, and is continued by the Act 15 Geo. III. That Act expressly recites the patent, and extends the benefit of it for twenty-five years, to Watt and his assigns. It was therefore clearly the intention of the legislature that the patent already granted should be continued, and the Court will construe the Act in such a manner as to effectuate that intention.

With regard to the specification, that is sufficiently explicit to support the validity of the patent. The improvement made by Watt consists in a discovery, that by letting out the steam from the cylinder into another vessel, in order to condense it, instead of admitting cold water into the cylinder for that purpose, as was done in Newcomen’s engine, and by keeping the cylinder hot, the

consumption of steam, and consequently of fuel, would be diminished. The communication between the cylinder and the other vessel is formed by means of valves, which were before in use in Newcomen's engine, and therefore not necessary to be more accurately described, and the mode of keeping the cylinder hot is explicitly stated in the specification. There is no new mechanical construction invented by Watt, capable of being the subject of a distinct specification; but his discovery was of a principle, the method of applying which is clearly set forth, and therefore a drawing would have been unnecessary. So in Dollond's patent; the specification describes the principle, but not the mechanical construction by which it is carried into effect. It recites that a patent had been granted to him, for "the invention of a new method of making the object glasses of refracting telescopes, by compounding mediums of different refractive qualities, whereby the errors arising from the different refrangibility of light, as well as those which are produced by the spherical surfaces of the glasses, were perfectly corrected." It then goes on to state, after mentioning the defects of the telescopes then in use, that in the new telescopes the images of objects were formed by the difference between two contrary refractions: the object glass being a compound of two or more glasses put close together, whereof one was concave and the other convex: that the excess of refraction by which the image was formed was in the convex glass, which was made of a medium or substance, in which the difference of refrangibility was not so great as in the substance of which the concave glass was formed; therefore, their refractions being proportioned to their difference of refrangibility, there remained a difference of refraction by which the image was formed, without any difference of refrangibility to disturb the vision; and that the radii of the surfaces of each of those glasses were likewise so proportioned, as to make the aberrations which proceeded from their spherical surfaces respectively equal, which being also contrary, destroyed each other. But there is no mention of any mechanism, nor does the specification state the degrees of sphericity or curvature of the concave or convex glasses; because it is well known that the curvature of the one must be proportioned to that of the other, in order to correct the refrangibility of the

rays of light. It is also to be observed, that the jury have found that the specification is sufficient to enable a mechanic acquainted with the fire-engines previously in use to construct fire-engines producing the effect of lessening the consumption of fuel and steam, upon the principle invented by the plaintiff Watt. It is therefore upon the whole submitted to the Court, that both the questions stated in the case must be answered in the affirmative.

Mr. Justice Buller.—The objection to Dollond's patent was, that he was not the inventor of the new method of making object glasses, but that Dr. Hall had made the same discovery before him. But it was holden, that as Dr. Hall had confined it to his closet, and the public were not acquainted with it, Dollond was to be considered as the inventor.

In behalf of the defendant it was urged by *Mr. Sergeant Williams* that the patent was void, because it differed from the specification; the patent being for a formed instrument or machine, but the specification for principles unorganized. It is for a new invented method. Now the word invention, when applied to mechanical subjects, properly signifies something which has been already formed, some manufacture or machine, and is not applicable to mere unorganized principles. The plaintiff Watt cannot be said to have invented the principles, for those principles were in use in Newcomen's steam-engine. It is true that the application of those principles in the manner described in the specification is new; but it was well known long before, that steam had an expansive power, and was condensed by cold. It is in this sense that the word invention is used in the patent. It recites that Watt had represented to the King, "that he had, after much labour and expense, invented a method of lessening the consumption of steam and fuel in fire-engines." From these words it seems clear that he meant it to be understood by the Crown, that the invention which he represented himself to have made was completely formed, and not that he had merely conceived in his mind the application of certain known principles, by which the consumption of steam and fuel would be lessened in fire-engines: for the ideas of the principles before they were organized could not have been attended with great labour, and much less with great expense.

That the representation was understood in this sense by the Crown, will appear from considering other parts of the patent. The King grants to Watt, that he shall "make, use, exercise, and vend his said invention."

In another part of the patent, all persons are forbidden to counterfeit, imitate, or resemble the said invention, and to make or cause to be made, any addition thereto, or subtraction therefrom. In another part, it is provided that the patent shall not extend to give privilege to Watt, to use or exercise any invention or work whatsoever which had theretofore been found out or invented by any other, and publicly used or exercised; but that every other person should use and practise their several inventions. Now it is impossible that any of the expressions thus cited from the patent can be applied to the invention of mere unorganized principles of science. If then the patent be, which it clearly is, for a formed instrument or machine, it is void; because it is admitted that there is no specification descriptive of any formed instrument whatever, nor is there any drawing or model.

But supposing it to be a patent for mere principles, (for the specification states that the invention consists of principles,) it is neither originally good in law, nor continued by the Act of 15 Geo. III. It is not good in law, because it does not fall within the construction of the stat. 21 Jac. I. cap. 3, upon which alone it must, if at all, be supported. The sixth section of that Act provides, that nothing therein contained shall extend to any letters patent, or grants of privilege for fourteen years or under, thereafter to be made, of the sole working or making of any manner of new manufactures, which others at the time shall not use. The word manufacture is descriptive either of the practice of making a thing by art, or of the thing when made. The invention, therefore, of any instrument, used in the process of making a thing by art, is a manufacture, and the subject of a patent within the statute, because such an instrument is itself a thing made by art. So, also, medicines may be said to be a species of manufacture, and within the provision of the statute, because they consist in the practice of mixing together and making up by art the different ingredients of which they are composed, and are the result of principles organized, as far as the nature of the thing will admit. The same observation may be made with respect to Dollond's

telescopes, which are certainly a manufacture, and within the stat. 21 Jac. I.; but they consist of principles reduced into form and practice, as much as the subject will admit, and the patent is for glasses completely formed, not for mere principles; and the specification describes the manner in which the invention is to be carried into execution, with all the perspicuity of which the thing is capable. That this is the true meaning of the term manufacture, as it is used by the legislature, likewise appears from the words "making or working" being applied to it, and "which others at the time shall not use," and also from the provision that the patentee shall ascertain the nature of his invention, and in what manner the same is to be performed. The specification is the price which the patentee is to pay for the monopoly. In the construction of specifications, it is a rule that the patentee must describe his invention in such a manner, that other artists in the same trade or business may be taught to do the same thing for which the patent is granted, by following the directions of the specification alone, without any new invention or addition of their own, and without the expense of trying experiments. (*Turner v. Winter*, ante p. 105.) This necessarily excludes any supposition, that mere principles can be the subject of a patent. That this is the true construction of the word manufactures in the statute appears also from Lord Coke's commentary on it, 3 Inst. 184; who, as appears from the journal of the House of Commons, was chairman of the committee to whom the bill was referred, and who, therefore, probably either drew or perused it. This construction of the word manufactures in the statute is also fortified by the opinion of Mr. Justice Yates, in the controversy respecting literary property, *Miller v. Taylor*, 4 Bur. 2361, who there held in illustration of the subject before him, that mere principles, not embodied, and reduced into practice, were not the subject of a patent. Until they are so embodied, they are like the sentiments of an author while in his own mind. In that state, they are alike the property of him or of another. But, when once they are published, then, and not before, his exclusive property in them, or in the organization of them, commences. In Sir Richard Arkwright's case too, the learned judge before whom it was tried, (Mr. Justice Buller,) stated in his summing up, that, for a principle

alone, a patent could not be obtained. And, independent of authorities, the reason of the thing shows that such a patent could not be obtained within the meaning of the statute. By obtaining a patent for principles only, instead of one for the result of the application of them, the public is prevented, during the term, from improving on those principles; and, at the end of the term, is left in a state of ignorance as to the best, cheapest, and most beneficial manner of applying them to the end proposed.

It is true, indeed, that the jury have found, that the specification made by Watt is of itself sufficient to enable a mechanic acquainted with fire-engines previously in use to construct fire-engines, producing the effect of lessening the consumption of fuel and steam in fire-engines, upon the principle invented by Watt. But it is not found that the specification would enable a mechanic to construct Watt's fire-engines; nor is it found to what extent the consumption of steam and fuel would be lessened in fire-engines, constructed upon the principles stated in the specification: nor whether those engines would have the effect of lessening the consumption of steam to the same degree with Watt's engines. All this is left uncertain. The merit of the invention must be measured by the quantity of fuel which may be saved by it. Now, it is possible, that agreeable to this finding, a fire-engine might be made, which would produce the effect of lessening the consumption of fuel and steam, upon the principles mentioned in the specification; but yet such engine might save only one bushel of coals, or other fuel, where Watt's engine would save one hundred. The finding of the jury, therefore, does not mend the case. The specification ought to have described the method by which the machine might be made to save the greatest quantity of fuel which it was known to be capable of saving, and which in fact it does save, when used by the inventor. It is a settled rule of law, that if a patentee makes the thing for which the patent is granted with cheaper materials, or if he applies and uses it in a more advantageous and useful manner than is described in the specification, the patent is void; because he does not put the public in possession of his invention, or enable them to derive the same benefit that he himself derives from it. (*Turner v. Winter.*)

It is to be shown, in the next place, that the patent is

not continued by the Act 15 Geo. III. c. 61. The title of it is, "An Act for vesting in James Watt the sole property of certain steam-engines, called fire-engines, of his invention." It recites that the King, by his letters patent, had given and granted to Watt the sole benefit and advantage of making and vending certain engines, by him invented, for lessening the consumption of steam and fuel in fire-engines, with a proviso, that he should cause a particular description of the nature of the said invention to be enrolled, and that he accordingly had caused a particular description of the nature of the said engine to be enrolled. It further recites, that the said James Watt had employed many years, and a considerable part of his fortune, in making experiments upon steam-engines, commonly called fire-engines; but, on account of the many difficulties which always arise in the execution of such large and complex machines, he could not complete his intention before the end of the year 1794, when he finished some large engines as specimens of his construction, and that his engines might be of great utility; and then enacts, that the sole privilege of making, constructing, and selling the engines thereinbefore particularly described, shall be vested in Watt for twenty-five years, and that he, during the said term, shall make, exercise, and vend the said engines. Now, is it possible to say that this Act continues a patent for mere principles? Certainly not. If, therefore, the patent be really for principles, it is not continued by the Act; but supposing, that though the Act does not describe the patent according to the terms of it, yet it does describe it according to its import, namely, as a patent for principles; in that case it would not be within the protection of the statute of 21 Jac. I., for the reasons already offered.

There is a proviso in the Act 15 Geo. III., that every objection in law, competent against the said patent, should be competent against the Act, to all intents and purposes, except so far as relates to the term thereby granted. Though this, therefore, is a grant of a monopoly by the legislature, yet it is to receive precisely the same construction as if it had been a grant by letters patent. Now, the grant itself is void, being founded on a false suggestion of the party to whom it is made: for, it is a rule of law, that if the King's grant be founded on a false suggestion of the party to whom it is made, it is void; as

if anything mentioned in the consideration of the grant be false. The consideration, which is the foundation of this grant in the Act, is the recital, that the King had, in January, 1765, by his letters patent, granted to Watt, for the term of fourteen years, the sole benefit and advantage of making and vending certain engines by him invented for lessening the consumption of steam and fuel, and that, owing to the reasons which are mentioned in the recital, it was probable that the whole term granted by the patent would elapse, before he could receive any compensation adequate to his labour; for which reasons, the term granted by the patent is prolonged, and the Act vests in him the sole privilege of making, constructing, and selling, the said engines, for twenty-five years; that is, the engines, the sole making and vending of which the King had granted by his said letters patent. But it is admitted, that the King did not grant by the patent a monopoly for making and vending any engines whatever.

The recital, therefore, which is the very foundation of the grant, is untrue. It has been also adjudged, that if a private Act of Parliament, like the present, be founded upon a false recital, the Act is void, *Earl of Leicester v. Heydon*, Plowd. 390; where it is laid down, that statutes which misrecite things to which they refer, are void; and that, in the principal case, the statute which recited that A was attainted, when, in fact, he was not attainted, was void. Another objection to this Act, 15 Geo. III., is, that it professes to vest in Watt the exclusive property in an entire machine, notwithstanding the invention, which he claims to be his, is admitted of an improvement only of a known machine. And upon this point it is to be observed, that Lord Coke says, (3 *Inst.* 184,) "such a privilege, as is consonant to law, must be substantially and essentially newly invented; but, if the substance was in *esse* before, and a new addition thereunto, though that addition make the former more profitable, yet it is not a new manufacture in law." The Act is also defective, in not setting forth any specification of a formed instrument or machine; it is, indeed, admitted, that no such specification is to be found.

If the subject be viewed as arising from the patent and Act taken together, the arguments which have been already used, respecting those instruments separately,

apply themselves more strongly, inasmuch as if the Act be considered as explanatory of the patent, or as a part of it, there cannot be a doubt but that it means to grant a monopoly for a formed engine or machine. Upon the whole, therefore, of the case it appears, either that the patent is for an entire formed machine, when it ought to have been for an improvement only, and in which case the specification does not correspond with it; or it is for mere principles, which according to the statute 21 Jac. I., cannot be the subject of a patent.

In reply, *Mr. Sergeant Adair* contended that the patent was neither for a formed instrument, nor the specification for a principle unorganised. The former was for "a new invented method of lessening the consumption of steam and fuel in fire-engines," by whatever mode that effect may be produced: the latter states both the principle of the invention, and also the mode in which it is to operate; namely, the preserving the cylinder hot by the means described, and the condensing the steam in separate vessels communicating with the cylinder. The difference in the terms used in the patent and the specification, arises from the nature of the subject; but the real meaning of them is the same. Where an improvement is made upon a machine already known, the patent ought not to be for the machine itself, but for the method of improving it. Thus, a patent was granted in 1759, to one Wood, for "a scheme to work a fire-engine at half the expense of coals," an effect which must have been caused by an alteration of the engine; yet the patent was for the scheme or method, and not for the engine itself. And, in the case of an improvement for making watches, Jessop's patent was avoided, because it was for the whole watch, when the invention consisted of only one movement. But, notwithstanding this rule, if from the nature of the thing, a patent for the new method or improvement only should have the effect of giving a right to the whole machine, that is not of itself a ground on which the patent can be set aside.

Their Lordships took time to consider their judgment, and delivered it as follows:—

Mr. Justice Rooke, after stating the special case at length, thus proceeded. From this state of the case, and from the admission of counsel on both sides, I assume the following facts, namely, that the plaintiff Watt is the

inventor of a new and useful improvement in fire-engines, whereby the consumption of steam, and consequently of fuel, is considerably lessened; that the improvement is of such a nature, that it may legally be the object of protection by Royal patent; that a patent has been granted to the inventor, on the condition of a specification of the nature of the invention; that a specification has been made, sufficient to enable a mechanic to construct fire-engines containing the improvement invented by the patentee; and that the Legislature, six years after the patent had been granted, thought proper to extend the duration of it from the eight years then to come, to twenty-five years; the patent having been granted in the ninth, and the statute having passed in the fifteenth year of the reign of the present King.

Under these circumstances, I think I conform to the spirit of the statute 21 Jac. I., c. 3, s. 6, if I incline to support this patent, provided it may be supported without violating any rule of law; and I think so for two reasons; first, because the patentee is substantially entitled to the protection of the patent; and secondly, because the public are sufficiently instructed, and will be duly benefited by the specification. Against the claim of the patentee, certain objections have been made, which, it is contended, deprive him of all legal right to that protection. First, it is objected that the patent is not for fire-engines upon the particular construction which contains this new improvement, but for a new invented method of lessening the consumption of steam and fuel; secondly, it is objected that no particular engine is described in this specification, but that it only sets forth the principles; and the last objection is, that the statute has not duly prolonged the patent, because the patent is for a method, and the statute for an engine. It is obvious that these objections are merely formal; they do not affect the substantial merits of the patentee, nor the meritorious consideration which the public have a right to receive, in return for the protection which the patentee claims. With regard to the first objection, it is, that the patent is not for a fire-engine of a particular construction, but for a new invented method. It pre-supposes the existence of the fire-engine, and gives a monopoly to the patentee of his new invented method of lessening the consumption of steam and fuel in fire-engines. The obvious meaning

of these words is, that he has made an improvement in the construction of fire-engines; for what does method mean, but mode or manner of effecting? What method can there be of saving steam or fuel in engines, but by some variation in the construction of them? A new invented method, therefore, conveys to my understanding the idea of a new mode of construction. I think those words are tantamount to fire-engines of a newly invented construction; at least I think they will bear this meaning, if they do not necessarily exclude every other. The specification shows that this was the meaning of the words, as understood by the patentee; for he has specified a new and particular mode of constructing fire-engines. If he has so understood the words, and they will bear this interpretation, then I think this objection, which is merely verbal, is answered. To which I add, that patents for a method or art of doing particular things have been so numerous, according to the lists left with us, that method may be considered as a common expression in instruments of this kind. It would, therefore, be extremely injurious to the interest of patentees, to allow this verbal objection to prevail. As to the second objection, that no particular engine is described, that no model or drawing is set forth, I hold this not to be necessary, provided the patentee so describes the improvement as to enable artists to adopt it when his monopoly expires. The jury find that he has so described it. It is objected that he professes to set forth principles only; but we are not bound by what he professes to do, but by what he has really done. If he had professed to set forth a full specification of his improvement, and had not set it forth intelligibly, his specification would have been insufficient, and his patent void. It seems, therefore, but reasonable, that if he sets forth his improvement intelligibly, his specification should be supported, though he professes only to set forth the principle. The term principle is equivocal; it may denote either the radical elementary truths of a science, or those consequential axioms which are founded on radical truths, but which are used as fundamental truths by those who do not find it expedient to have recourse to first principles. The radical principles on which all steam-engines are founded are, the natural properties of steam, its expansiveness and condensibility. Whether the machines are formed in one

Meaning of title of patent shown by obvious meaning of terms in spec.

New verbal objection ought not to prevail.

Drawing not required if description sufficient to enable competent workmen to understand the invention without it.

Spec. to be judged of as it is, but as it was intended to be.

Spec. sufficient if intelligible, although confined to principle.

Meaning of term "principle"

shape or another; whether the cylinder is kept hot or suffered to cool; whether the steam is condensed in one vessel or another, still the radical principles are the same. When the present patentee set his inventive faculties to work, he found fire-engines already in existence, and the natural qualities of steam already known and mechanically used. He only invented an improvement in the mechanism, by which they might be employed to greater advantage. There is no newly discovered natural principle as to steam, nor any new mechanical principle in his machine; the only invention is, a new mechanical employment of principles already known. As to the specification, some part of it, so much as represents the future intentions of the patentee, may be considered, according to the language of the specification, as merely theoretical; but the greater part describes a practical use of improved mechanism, the basis on which the improvement is founded. The object of the patentee was to condense the steam without cooling the cylinder; the means adopted to effectuate this were to enclose the cylinder in a case which will confine the heat or transmit it slowly, to surround it with steam or other heated bodies, and to suffer neither water nor any other substance colder than the steam, to enter or touch it during that time. These means are set forth. The objection is, that there is no drawing or model of a particular engine; and where is the necessity of such drawing or model, if the specification is intelligible without it? Had a drawing or model been made, and any man copied the improvement, and made a machine in a different form, no doubt this would have been an infringement of the patent: why? because the mechanical improvement would have been introduced into the machine, though the form was varied. It follows from thence, that the mechanical improvement, and not the form of the machine, is the object of the patent; and if this mechanical improvement is intelligibly specified, of which a jury must be the judges, whether the patentee calls it a principle, invention, or method, or by whatever other appellation, we are not bound to consider his terms, but the real nature of his improvement, and the description he has given of it; and we may, I think, protect him, without violating any rule of law. As to the articles of the specification which denote intention only, and do not state the thing to which it is

Think of invention, whatever name, or rather, if only intelligibly described, is to be held as sufficiently claimed in Spec.

to be applied, I do not think he could maintain an action for breach of these articles; for he cannot anticipate the protection before he is entitled to it by practical accomplishment. But the patent is for a method already adopted, and the two first and most material articles are set forth as already accomplished, and the case states it was new and useful, at the time of making the patent. I therefore consider the most essential part of the patent, the keeping the cylinder hot, enclosing it in a case, and surrounding it with steam, as carried into practical effect at the time of granting the patent; this the defendant has infringed, and I will presume, after a verdict, where nominal damages only are given, that the evidence was applied to, and the damages given for those articles only which are well specified. Now, if he has infringed those articles which are well specified, he shall not be excused from an action; because he has been guilty of an additional infringement on that which is specified as matter of intention only. As to the objection of the want of a drawing or model, that at first struck me as of great weight. I thought it would be difficult to ascertain what was an infringement of a method, if there was no additional representation of the improvement or thing methodized. But I have satisfied my mind thus; infringement or not, is a question for the jury: in order to decide this case, they must understand the nature of the improvement or thing infringed; if they can understand it without a model, I am not aware of any rule of law which requires a model or a drawing to be set forth, or which makes void an intelligible specification of a mechanical improvement, merely because no drawing or model is annexed. In the present case, I do not hear that the want of a drawing or a model occasioned any difficulty to the jury; they have expressly decided that Mr. Watt has the merit of a new and useful invention, and that this invention was infringed by the defendant. How then can I say that they could not understand it for the want of a drawing? Especially when they have added, that the specification is sufficient to enable a mechanic, acquainted with the fire-engines previously in use, to construct fire-engines producing the effect of lessening the consumption of fuel and steam, upon the principle invented by the plaintiffs. For these reasons, I think the second objection, that no particular

engine is set forth, is not of sufficient weight to destroy the effect of the patent.

Mr. Justice Heath.—This patent is expressly for a new invented method for lessening the consumption of steam and fuel in fire-engines. It appears that the invention of the patentee is original, and may be the subject of a patent : but the question is, inasmuch as this invention is to be put in practice by means of machinery, whether the patent ought not to have been for one or more machines, and whether this is such a specification as entitles him to the monopoly of a method ? If method and machinery have been used by the patentee as convertible terms, and the same consequences would result from both, it might be too strong to say that the inventor should lose the benefit of his patent by the misapplication of the term. In truth it is not so. His counsel have contended for the exclusive monopoly of a method of lessening the consumption of steam and fuel in fire-engines, and that therefore would better answer the purposes of the patentee, for the method is a principle reduced to practice ; it is in the present instance the general application of a principle to an old machine. There is no doubt that the patentee might have a patent for his machinery, because the Act of Parliament he obtained acknowledged his patent, and he himself, in 1782, procured a patent for his invention of certain new improvements upon steam and fire-engines, for raising water, &c., which contained new pieces of mechanism applicable to the same. Upon this statement the following objections arise to the patent, which I cannot answer ; viz. that if there may be two different species of patents, the one for an application of a principle to an old machine, and the other for a specific machine, one must be good and the other bad. The patent that admits the most lax interpretation should be bad, and the other alone conformable to the rules and principles of common law, and to the statute on which patents are founded. The statute of 21 Jac. I. prohibits all monopolies, reserving to the King, by an express proviso, so much of his ancient prerogative as shall enable him to grant letters patent, and grants of privilege, for the term of fourteen years or under, of the sole working or making of any manner of new manufactures within this realm, to the true and first inventor and inventors of such manufactures. What, then, falls within the scope of the proviso ? such manufactures as are reducible to

two classes. The first class includes machinery, the second substances (such as medicines) formed by chemical and other processes, where the vendible substance is the thing produced, and that which operates preserves no permanent form. In the first class the machine, and in the second the substance produced, is the subject of the patent. I approve of the term manufacture, in the statute, because it precludes all nice refinements, it gives us to understand the reason of the proviso, that it was introduced for the benefit of trade. That which is the subject of a patent ought to be specified, and it ought to be that which is vendible, otherwise it cannot be a manufacture: this is a species of new manufacture, and the novelty of the language is sufficient to excite alarm. It has been urged that other patents have been litigated and established; for instance, Dollond's, which was for a refracting telescope. I consider that as substantially an improved machine. A patent for an improvement of a refracting telescope, and a patent for an improved refracting telescope, are in substance the same. The same specification would serve for both patents; the new organization of parts is the same in both. I asked in the argument for an instance of a patent for a method, and none such could be produced. I was then pressed with patents for chemical processes, many of which are for a method, but that is from an inaccuracy of expression, because the patent in truth is for a vendible substance. To pursue this train of reasoning still further, I shall consider how far the arguments in support of this patent will apply to the invention of original machinery, founded on a new principle. The steam-engine furnishes an instance. The Marquis of Worcester discovered in the last century the expansive force of steam, and first applied it to machinery. As the original inventor, he was clearly entitled to a patent. Would the patent have been good applied to all machinery, or to the machines which he had discovered? The patent decides the question. It must be for the vendible matter, and not the principle. Another objection may be urged against the patent, upon the application of the principle to an old machine, which is, that whatever machinery may be hereafter invented, would be an infringement of the patent, if it be founded on the same principle. If this were so, it would reverse the clearest positions of law respecting patents for

Advantage of the term "manufacture" in statute.

Spec. must not fall subject of patent if it is to be a manufacture

machinery, by which it has always been holden, that the organization of a machine may be the subject of a patent, but principles cannot. If the argument for the patentee were correct, it would follow that where a patent was obtained for the principle, the organization would be of no consequence. Therefore, the patent for the application of the principle must be as bad as the patent for the principle itself. It has been urged for the patentee, that he could not specify all the cases to which his machinery could be applied. The answer seems obvious, that what he cannot specify he has not invented. The finding of the jury that steam-engines may be made upon the principle stated by the patentee, by a mechanic acquainted with the fire-engines previously in use, is not conclusive. This patent extends to all machinery that may be made on this principle, so that he has taken a patent for more than he has specified; and as the subject of his patent is an entire thing, the want of a full specification is a breach of the conditions, and avoids the patent. Indeed, it seems impossible to specify a principle and its application to all cases, which furnishes an argument that it cannot be the subject of a patent. It has been usual to examine the specification, as a condition on which the patent was granted. I shall now consider it in another point of view. It is a clear principle of law, that the subject of every grant must be certain. The usual mode has been for the patentee to describe the subject of it by a specification; the patent and the specification must contain a full description: then in this, as in most other cases, the patent would be void, for the uncertain description of the thing granted, if it were not aided by the statute. The grant of a method is not good, because uncertain; the specification of a method, or the application of a principle, is equally so, for the reasons I have alleged.

Mr. Justice Buller.—Few men possess more ingenuity, or have greater merit with the public, than the plaintiffs on this record; and if their patent can be sustained in point of law, no man ought to envy them the profits and advantages arising from it. Even if it cannot be supported, no man ought to envy them the profits which they have received, because the world has undoubtedly derived great advantages from their ingenuity. We are called upon to deliver our opinions on the dry question of law, whether, upon the case disclosed to us, this patent

can or cannot be sustained? I shall deliver my opinion first, upon the case itself, and secondly, on the arguments which have been urged at the bar.

The case states the plaintiffs' patent, the specification, and the Act of Parliament. It gives a description of the old engine, and then states that the invention of the plaintiffs is a new and useful one; and that the specification is sufficient to enable a mechanic to construct fire-engines, producing the effect of lessening the consumption of fuel and steam in fire-engines, upon the principle invented by Mr. Watt. One objection made by the defendant was, that it did not appear on the case that a mechanic could, from the specification, construct an engine which should lessen the consumption of fuel and steam with equal effect, or to the same extent, as Mr. Watt himself did. If the negative appeared, namely, that a mechanic could not from the specification make an engine with equal effect, or if it required expense and experiments before it could be done, I agree that either of these facts would avoid the patent; but that is not so stated: and upon this case, I think we are bound to say there is no foundation for either of these objections. There is another objection to the case, which I think more important, and that is, that the jury have not told us wherein the invention consists; whether it be in an additional cylinder or other vessel to the old machine, or what the addition is, or whether it be only in the application of the old parts of the machine, or in what is called at the bar, the principle only, or in what that principle consists. These defects have opened a great field of argument, and have driven the plaintiffs' counsel to the necessity of endeavouring to support his case on all possible grounds. The old engine consisted of a cylinder, a boiler, a pipe, which occasionally communicated between them, an injection cistern, and pumps. The two material parts of the new engine, as mentioned in the specification, are, the old cylinder, now called the steam-vessel, and the vessel now called the condenser; which, it is said, must be distinct from the steam-vessel, though occasionally communicating with it. The old boiler did occasionally communicate with the cylinder. The pumps, grease, and other things are admitted to be trifling circumstances, and not worthy any observation. Upon this state of the case, I cannot say that there is anything substantially

new in the manufacture; and, indeed, it was expressly admitted on the argument, that there were no new particulars in the mechanism: that it was not a machine or instrument which the plaintiffs had invented: that mechanism was not pretended to be invented in any of its parts: that this engine does consist of all the same parts as the old engine: and that the particular mechanism is not necessary to be considered. The fact of there being nothing new in the engine drove the counsel to argue on very wide grounds, and to touch on the possibility of maintaining a patent for an idea or a principle, though I think it was admitted that a patent could not be sustained for an idea or a principle alone.

The very statement of what a principle is proves it not to be a ground for a patent: it is the first ground and rule for arts and sciences, or in other words, the elements and rudiments of them. A patent must be for some new production from those elements, and not for the elements themselves. The plaintiffs' case is considerably distressed in many parts of it, and as it seems to me, the arguments which have been adduced were very much calculated to keep clear of difficulties, which the counsel foresaw might be introduced into the case; as first, that unless the principle can be supported as the ground of the patent, there may be some danger in confirming the defendant's objection to it; secondly, that unless the principle can be supported it may open a fatal objection to the specification, because that does not state in what manner the new machine is to be constructed, how it varies from the old one, or in what way the improvements are to be added; or, thirdly, because the patent embraces the whole principle and is founded on that alone, but the invention is taken to consist of an improvement or addition only. Another objection may arise both to the patent and specification, viz. that the patent is granted for the whole engine, and not for the addition and improvement only. Perhaps it may be convenient and judicious to keep these objections as much as possible in the back-ground and out of the view of the Court. But it is our duty to sift and dive into the facts and circumstances of the case, and the bearings and consequences of them, as far as our abilities or knowledge of the subject will admit. There is one short observation arising on this part of the case, which seems to me to be unanswerable, and that is, that if

Definition of the word "principle."
Do. of subject-matter for a patent

the principle alone be the foundation of the patent, it cannot possibly stand, with that knowledge and discovery which the world were in possession of before. The effect, the power, and the operation of steam were known long before the date of this patent; all machines which are worked by steam are worked by the same principle. The principle was known before, and therefore if the principle alone be the foundation of the patent, though the addition may be a great improvement, (as it certainly is,) yet the patent must be void *ab initio*. But then it was said, that though an idea or principle alone would not support the patent, yet that an idea reduced into practice, or a practical application of a principle, was a good foundation for a patent, and was the present case. The method and the mode of doing a thing are the same, and I think it impossible to support a patent for a method only, without having carried it into effect, and produced some new substance. But here it is necessary to inquire, what is meant by a principle reduced into practice? It can only mean a practice founded on principle, and that practice is the thing done or made, or in other words, the manufacture which is invented.

This brings us to the true foundation of all patents, which must be the manufacture itself, and so says the statute, 21 James I. c. 3. All monopolies, except those which are allowed by that statute, are declared to be illegal and void. They were so at common law, and the sixth section excepts only those of the sole working or making any manner of new manufacture; and whether the manufacture be with or without principle, produced by accident or by art, is immaterial. Unless this patent can be supported for the manufacture, it cannot be supported at all. I am of opinion, that the patent is granted for the manufacture, and I agree with my brother Adair, that verbal criticisms ought not to avail, but that "principle" in the patent, and the "engine" in the Act of Parliament, mean, and are the same thing. Besides, the declaration is founded on a right to the engine, and therefore unless the plaintiffs can make out their right to that extent, they must fail. In most of the instances of the different patents, mentioned by my brother Adair, the patents were for the manufacture, and the specification rightly stated the method by which the manufacture was made; but none of them go the length of proving, that a

In what sense a
principle is
patentable

Meaning of
patentable principle

method of doing a thing without the thing being done, or actually reduced into practice, is a good foundation for a patent. When the thing is done or produced, then it becomes the manufacture, which is the proper subject for a patent. Dollond's patent was for object glasses, and the specification properly stated the method of making those glasses. As I mentioned in the course of the argument, the point contested in that case was, whether Dollond or Hall was the first and true inventor within the meaning of the statute, Hall having first made the discovery in his own closet, but never made it public; and on that ground Dollond's patent was confirmed. Mechanical and chemical discoveries all come within the description of manufactures, and it is no objection to either of them, that the articles of which they are composed were known, and were in use before, provided the compound article, which is the object of the invention, is new. But then the patent must be for the specific compound, and not for all the articles or ingredients of which it is made. The first inventor of a fire-engine could never have supported a patent for the method and principle of using iron; nor could Dr. James (supposing his patent had been clear of other objections) have sustained a patent for the method and principle of using antimony. In the first case, the patent must have been for the fire-engine, *eo nomine*; and in the second, for the specific compound powder. Suppose the world were better informed than it is how to prepare Dr. James's fever powder, and an ingenious physician should find out that it was a specific cure for consumption, if given in particular quantities: could he have a patent for the sole use of James's powder in consumptions, or to be given in particular quantities? I think it must be conceded that such a patent would be void; and yet the use of the patent be new, and the effect of it would be as materially different from what it is now as life is from death. So in the case of a late discovery, which, as far as experience has hitherto gone, is said to have proved efficacious, that of the medical properties of arsenic in curing agues; could a patent be supported for the sole use of arsenic in aguish complaints? The medicine is the manufacture, and the only object of a patent; and as the medicine is not new, any patent for it, or for the use of it, would be void. The case of water lobbies, which has often been mentioned in Westminster

Mechanical & chemical discoveries are all comprehended in the term "manufactures".

Hall, may afford some illustrations of the subject. The invention first owed its rise to the accident of a man's spitting on a floor-cloth, which changed its colour, from whence he reasoned on the effect of intermixing water with oil or colours, and found out how to make water tabbies, and had his patent for water tabbies only : but if he could have had a patent for the principle of intermixing water with oil or colours, no man could have had a patent for any distinct manufacture produced on the same principle. Suppose painted floor-cloths to be produced on the same principle, yet as the floor-cloth and the tabby are distinct substances, calculated for distinct purposes, and were unknown to the world before, a patent for one would be no objection to a patent for another. The true question in this case is, whether the plaintiffs' patent can be supported for the engine. I have already said, I consider it as granted for the engine, and if that be the right construction of the patent, that alone lays all the arguments about ideas and principles out of the case. The objections to this patent as a patent for the engine are two ; first, that the fire-engine was known before ; and, secondly, though the plaintiffs' invention consisted only of an improvement of the old machine, they have taken the patent for the whole machine, and not for the improvement alone. As to the first, the fact which the plaintiffs' counsel were forced to admit, and did repeatedly admit in the terms which I mentioned, viz., that there was nothing new in the machine, is decisive against the patent. And the second objection is equally fatal. That a patent for an addition or improvement may be maintained, is a point which has never been directly decided ; and *Bircot's Case*, 3 *Inst.* 184, is an express authority against it, which case was decided in the Exchequer Chamber. What were the particular facts of that case we are not informed, and there seems to me to be more quaintness than solidity in the reason assigned, which is, that it was to put a new button to an old coat, and it is much easier to add than to invent. If the button were new, I do not feel the weight of the objection that the coat on which the button was to be put was old. But, in truth, arts and sciences at that period were at so low an ebb, in comparison with that point to which they have been since advanced, and the effect and utility of improvements so little known, that I do not think that case ought to

preclude the question. In later times, whenever the point has arisen, the inclination of the Court has been in favour of the patent for the improvement, and the parties have acquiesced, where the objection might have been brought directly before the Court. In *Morris v. Bramson*, (*ante* p. 30), which was tried at the sittings after Easter Term 1776, the patent was for making oilet holes or network in silk, thread, cotton, or worsted; and the defendant objected that it was not a new invention, it being only an addition to the old stocking-frame. Lord Mansfield said, after one of the former trials on this patent, "I have received a very sensible letter from one of the gentlemen who was upon the jury, on the subject, whether on principles of public policy there can be a patent for an addition only. I paid great attention to it, and mentioned it to all the judges. If the general point of law, viz., that there can be no patent for an addition, be with the defendant, that is open upon the record, and he may move in arrest of judgment. But that objection would go to repeal almost every patent that ever was granted. There was a verdict for the plaintiffs with 500*l.* damages, and no motion was made in arrest of judgment. Though his Lordship did not mention what were the opinions of the judges, or give any direct opinion himself, yet we may safely collect that he thought, on great consideration, the patent was good, and the defendant's counsel, though they had made the objection at the trial, did not afterwards persist in it. Since that time it has been the generally received opinion in Westminster Hall, that a patent for an addition is good; but then it must be for the addition only, and not for the old machine too. In Jessop's case, as quoted by my brother Adair, the patent was held to be void, because it extended to the whole watch, and the invention was of a particular movement only. It was admitted in the reply, that the patent should be applied to the invention itself; but it was contended, that if in consequence the patent gave a right to the whole engine, that would be no objection. To this I answer, that if the patent be confined to the invention, it can give no right to the engine, or to anything beyond the invention itself. When a patent is taken for an improvement only, the public have a right to purchase that improvement by itself, without being encumbered with other things. A fire-engine of any considerable

size, I take it, would cost about 1,200*l.*; and suppose the alteration made by the plaintiffs, with a fair allowance for profit, would cost 50*l.* or 100*l.*, is it to be maintained, that all the persons who already have fire-engines must be at the expense of buying new ones from the plaintiffs, or be excluded from the use of the improvement? So in the case of the watch, may not other persons in the trade buy the new movement, and work it up in watches made by themselves? Where men have neither fire-engines nor watches, it is highly probable that they will go to the inventor of the last and best improvements for the whole machine; and if they do, it is an advantage which the inventor gets from the option of mankind, and not from any exclusive right or monopoly vested in him. But here the plaintiffs claim the right to the whole machine. To that extent their right cannot be sustained, and therefore I am of opinion that there ought to be judgment for the defendant.

Lord Chief Justice Eyre.—Upon this case two questions are reserved for the opinion of the Court; the first, whether the patent is good in law, and continued by the Act of Parliament mentioned in the case? the second, whether the specification, stated in the case, is, in point of law, sufficient to support the patent? As I take it, the facts of the case are stated with a view to the application of them to these questions, and not to any other questions which may be thought to arise upon them. Perhaps, indeed, if the Court saw that another material question might arise out of these facts, which had escaped the attention of the court and jury at *nisi prius*, they might direct the case to be amended, or a new trial to be had in order to introduce it. These two questions were thus stated, in order to bring before the Court the points of law insisted on upon the part of the defendant, and also to give an opportunity for considering a doubt which occurred to me upon my first view of the case at the trial: which was, whether a patent-right could attach upon anything not organized and capable of precise specification? As those two questions are framed, there are three points for the consideration of the Court. First, whether the patent was, in its original creation, good or bad? Secondly, taking it to be good, whether it was continued by the Act of Parliament? And thirdly, taking it to be good in its original creation, and to have

been continued by the Act of Parliament, subject to an objection for the want of a specification, whether there has been a sufficient specification? Though we have had many cases upon patents, yet I think we are here upon ground which is yet untrodden, at least was untrodden till this cause was instituted, and till the discussions were entered into which we have heard from the bar, and now from the Court. Patent rights are nowhere, that I can find, accurately discussed in our books. Sir Edward Coke discourses largely, and sometimes not quite intelligibly, upon monopolies, in his chapter of monopolies, 3 Inst. 181; but he deals very much in generals, and says little or nothing of patent rights as opposed to monopolies. He refers principally to his own report of the Case of Monopolies, 11 Co. 86, b.; he also mentions a resolution of all the Judges in 2 and 3 Eliz. from a manuscript of Dyer, condemning a grant to the corporation of Southampton by Philip and Mary for the sole right of importing Malmsey wine, and that no Malmsey wine should be landed at any other place, upon pain to pay treble customs. He also mentions *Bircot's Case* in the Exchequer Chamber, 15 Eliz., for a privilege concerning the preparing and melting of lead ore, but he states no particulars; and the principle on which that case was determined has been, as my brother Buller observes, not adhered to; namely, that an addition to a manufacture cannot be the subject of a patent. There is also a case in Godbolt, 252, and there are a few others condemning particular patents, which were, beyond all doubt, mere monopolies. The modern cases have chiefly turned upon the specifications, whether there was a fair disclosure. *Such was the case of Turner v. Winter.** The case of *Edgeberry v. Stephens,†* is almost the only case upon the patent right under the saving of the stat. of Jac. 1 that is to be found. That case establishes, that the first introducer of an invention practised beyond sea shall be deemed the first inventor; and it is there said, the Act intended to encourage new devices, useful to the kingdom; and whether acquired by travel or study, it is the same thing. Deriving so little assistance from our books, let us resort to the statute itself, 21 Jac. 1, c. 3. We shall there find a monopoly to be, "the privilege of the sole buying, selling, making, working, or using any-

*Specimens of letters, the turning
point in patent cases.*

* *Ante*, p. 105.

† *Ante*, p. 35.

thing within this realm;" and this is generally condemned as contrary to the fundamental law of the land. But the 5th and 6th sections of that statute save letters patent, and grants of privileges, of the sole working or making of any manner of new manufacture within this realm, to the first and true inventor and inventors of such manufactures; with this qualification, "so that they be not contrary to the law, nor mischievous to the state;" in these three respects, first, "by raising the prices of commodities at home;" secondly, "by being hurtful to trade;" or, thirdly, by being "generally inconvenient." According to the letter of the statute, the saving goes only to the sole working and making; the sole buying, selling, and using, remain under the general prohibition, and with apparent good reason for so remaining; for the exclusive privilege of buying, selling, and using, could hardly be brought within the qualification of not being contrary to law, and mischievous to the state, in the respects which I have mentioned. I observe also, that according to the letter of the statute, the words, "any manner of new manufacture" in the saving, fall very short of the words "any thing," in the first section; but most certainly the exposition of the statute, as far as usage will expound it, has gone very much beyond the letter. In the case of *Edgeberry v. Stephens*, the words "new devices" are substituted and used as synonymous with the words "new manufacture."

It was admitted in the argument at the bar, that the word "manufacture" in the statute was of extensive signification; that it applied not only to things made, but to the practice of making, to principles carried into practice in a new manner, to new results of principles carried into practice. Let us pursue this admission. Under things made, we may class, in the first place, new compositions of things, such as manufactures in the most ordinary sense of the word; secondly, all mechanical inventions, whether made to produce old or new effects, for a new piece of mechanism is certainly a thing made. Under the practice of making we may class all new artificial manners of operating with the hand, or with instruments in common use, new processes in any art producing effects useful to the public.

When the effect produced is some new substance, or composition of things, it should seem that the privilege

*Inventions included
within the term
"manufacture" in
the statute*

of the sole working or making ought to be for such new substance or composition, without regard to the mechanism or process by which it has been produced, which, though perhaps also new, will be only useful, as producing the new substance. Upon this ground Dolond's patent was perhaps exceptionable, for that was for a method of producing a new object-glass, instead of being for the object-glass produced. If Dr. James's patent had been for his method of preparing his powders, instead of the powders themselves, that patent would have been exceptionable upon the same ground. When the effect produced is no substance or composition of things, the patent can only be for the mechanism, if new mechanism is used, or for the process, if it be a new method of operating with or without old mechanism by which the effect is produced.

To illustrate this: the effect produced by Mr. David Hartley's invention for securing buildings from fire, is no substance or composition of things; it is a mere negative quality, the absence of fire: this effect is produced by a new method of disposing iron plates in buildings. In the nature of things, the patent could not be for the effect produced; I think it could not be for the making the plates of iron, which, when disposed in a particular manner, produce the effect, for those are things in common use. But the invention consisting in the method of disposing those plates of iron so as to produce their effect, and that effect being a useful and meritorious one, the patent seems to have been very properly granted to him for his method of securing buildings from fire. And this compendious analysis of new manufactures mentioned in the statute satisfies my doubt, whether anything could be the subject of a patent but something organized and capable of precise specification. But for the more satisfactory solution of the other points which are made in this case, I shall pursue this subject a little further. In Mr. Hartley's method, plates of iron are the means which he employs, but he did not invent those means; the invention wholly consisted in the new method of using, or I would rather say, of disposing a thing in common use, and which thing every man might make at his pleasure, and which therefore, I repeat, could not in my judgment be the subject of the patent. In the nature of things, it must be, that in the carrying into

execution any new invention, use must be made of certain means proper for the operation. Manual labour, to a certain degree, must always be employed, the tools of artists frequently, often things manufactured but not newly invented, such as Hartley's iron plates, all the common utensils used in conducting any process, and so up to the most complicated machinery that the art of man ever devised. Now let the merit of the invention be what it may, it is evident that the patent in almost all these cases cannot be granted for the means by which it acts, for in them there is nothing new, and in some of them nothing capable of appropriation. Even where the most complicated machinery is used, if the machinery itself is not newly invented, but only conducted by the skill of the inventor, so as to produce a new effect, the patent cannot be for the machinery. In Hartley's case, it could not be for the effect produced, because the effect, as I have already observed, is merely negative, though it was meritorious. In the list of patents with which I have been furnished, there are several for new methods of manufacturing articles in common use, where the sole merit and the whole effect produced are the saving of time and expense, and thereby lowering the price of the article and introducing it into more general use. Now I think these methods may be said to be new manufactures, in one of the common acceptations of the word, as we speak of the manufacture of glass, or any other thing of that kind. The advantages to the public from improvements of this kind are, beyond all calculation, important to a commercial country, and the ingenuity of artists who turn their thoughts towards such improvements is in itself deserving of encouragement; and, in my apprehension, it is strictly agreeable to the spirit and meaning of the stat. 21 Jac. 1, that it should be encouraged; and yet the validity of these patents, in point of law, must rest upon the same foundation as that of Mr. Hartley's. The patent cannot be for the effect produced, for it is either no substance at all, or, what is exactly the same thing as to the question upon a patent, no new substance, but an old one produced advantageously for the public. It cannot be for the mechanism, for there is no new mechanism employed: it must, then, be for the method; and I would say, in the very significant words of Lord Mansfield, in the great case of the copyright (4 Burr.

2397), it must be for method detached from all physical existence whatever; and I think we should well consider what we do in this case, that we may not shake the foundation upon which these patents stand. Probably I do not overrate it when I state that two-thirds, I believe I might say, three-fourths of all patents granted since the statute passed, are for methods of operating and of manufacturing, producing no new substances and employing no new machinery. If the list were examined, I dare say there might be found fifty patents for methods of producing all the known salts, either the simple salt, or the old compounds. The different sorts of ashes used in manufactures are many of them inventions of great merit, many of them probably mere speculations of wild projectors; the latter ought to fall, the former to stand. If we wanted an illustration of the possible merit of a new method of operating with old machinery, we might look to the identical case now in judgment before the Court. If we consider into what general use fire-engines are come, that our mines cannot be worked without them, that they are essentially necessary to the carrying on many of our principal manufactures, that these engines are worked at an enormous expense in coals, which in some parts of the kingdom can with difficulty be procured at all in large quantities, it is most manifest, that any method found out for lessening the consumption of steam in the engines, which, by necessary consequence, lessens the consumption of coals expended in working them, will be of great benefit to the public, as well as to the individual who thinks fit to adopt it. And shall it now be said, after we have been in the habit of seeing patents granted in the immense number in which they have been granted for methods of using old machinery, to produce substances that were old, but in a more beneficial manner, and also for producing negative qualities by which benefits result to the public, by a narrow construction of the word "manufacture" in this statute, that there can be no patent for methods producing this new and salutary effect, connected, and intimately connected as it is, with the trade and manufactures of the country?

This, I confess, I am not prepared to say. An improper use of the word "principle," in the specification set forth in this case, has, I think, served to puzzle it. Undoubtedly, there can be no patent for a mere principle; but for

*the
proper use of the word
principle may lead to
abuse its meaning.
Now but an
ambiguity*

*embodied
principles can be
the subject matter
of a patent*

a principle so far embodied and connected with corporeal substances as to be in a condition to act and to produce effects in any art, trade, mystery, or manual occupation, I think there may be a patent. Now this is, in my judgment, the thing for which the patent stated in the case was granted, and this is what the specification describes, though it miscalls it a principle. It is not that the patentee has conceived an abstract notion that the consumption of steam in fire-engines may be lessened, but he has discovered a practical manner of doing it, and for that practical manner of doing it he has taken his patent. Surely, this is a very different thing from taking a patent for a principle; it is not for a principle, but for a process. I have dwelt the more largely upon this part of the case, because, in my apprehension, this is the foundation upon which the whole argument will be found to rest. If, upon the true construction of the statute, there may be a patent for a new method of manufacturing or conducting chemical processes, or of working machinery so as to produce new and useful effects, then I am warranted to conclude that this patent was, in its original creation, good. I will next consider the specification before I proceed to the consideration of the questions arising upon the statute for continuing this patent. The specification has reference to the patents and not to the statutes, and, therefore, it will be proper to consider it in this stage of the argument. I distinctly admit, that if this patent is to be taken to be a patent for a fire-engine, the specification is not sufficient; it is not a specification of mechanism of any determinate form, having component parts capable of precise arrangement and of particular description. On the other hand, if the patent is not for a fire-engine, but in effect for a manner of working a fire-engine so as to lessen the consumption of steam, which, as I conceive, the words of the patent import, let us see whether this specification does not sufficiently describe a manner of working fire-engines so as to produce the effect expressed in the patent, and whether the only objection to the specification is not that it is loaded with a redundancy of superfluous matter. The substance of the invention is a discovery that the condensing the steam out of the cylinder, and protecting the cylinder from the external air, and keeping it hot to the degree of steam heat, will lessen the consumption of

*Patentable principle
does not mean process*

*Redundancy of matter
may obscure a claim*

steam. This is no abstract principle, it is in its very statement clothed with practical application: it points out what is to be done in order to lessen the consumption of steam. Now, the specification of such a discovery seems to consist in nothing more than saying to the constructor of a fire-engine, "for the future condense your steam out of the body of the cylinder instead of condensing it within it, put something round the cylinder to protect it from the external air and to preserve the heat within it, and keep your piston air-tight without water." Any particular manner of doing this, one should think, would hardly need to be pointed out, for it can scarcely be supposed that a workman, capable of constructing a fire-engine, would not be capable of making such additions to it as should be necessary to enable him to execute that which the specification requires him to do. But if a very stupid workman should want to know how to go about this improvement, and in answer to his question was directed to conduct the steam, which was to be condensed, from the cylinder into a close vessel by means of a pipe and a valve communicating with the cylinder and the close vessel, to keep the close vessel in a state of coldness sufficient to produce condensation, and to extract from it any part of the steam which might not be condensed by the pump; and was also told to inclose the cylinder in a wooden case, and to use a resinous substance instead of water to keep the piston air-tight, can it be imagined that he would be so stupid as not to be able to execute this improvement with the assistance of these plain directions? If any man could for a moment imagine that this was possible, I observe that this difficulty is put an end to, because the jury have found that a workman can execute this improvement in consequence of the specification. Some machinery, it is true, must be employed, but the machinery is not of the essence of the invention, but incidental to it. The steam must pass from the cylinder to the condensing vessel, for which purpose there must be a valve to open, a pipe to convey, and a vessel to receive the steam; but this cannot be called new invented machinery, whether considered in the parts or in the whole, and, therefore, there can be no patent for this addition to the fire-engines. Suppose a new invented chemical process, and the specification should direct that some particular chemical substance

*Machinery not patented
but incidental to an
invention for a principle*

should be poured upon gold in a state of fusion, it would be necessary, in order to this operation, that the gold should be put into a crucible, and should be melted in that crucible; but it would be hardly necessary to state in the specification the manner in which, or the utensils with which the operation of putting gold into a state of fusion was to be performed. They are mere incidents, with which every man acquainted with the subject is familiar. Some observations were made, in the course of the argument at the bar, on its being left unascertained both in the specification and case, to what extent the consumption of steam would be lessened by the invention; but the method does not profess to ascertain this, it professes to lessen the consumption; and, to make the patent good, the method must be capable of lessening the consumption to such an extent as to make the invention useful: more precision is not necessary, and absolute precision is not practicable. The quantity of steam which will be saved in each machine must depend upon a great variety of circumstances respecting each individual fire-engine, such as the accuracy of casting or boring the cylinder, or the dimensions of it, the accuracy of the workman in putting his apparatus together, the care in keeping the cylinder in a proper degree of heat, and the more or less perfect order for working, in which the engine is kept: all these circumstances will affect the quantity of steam to be lessened. Some weighty observations have been made upon parts of this specification, but those parts appear to me not properly to relate to the method described in the patent; they are rather intimations of new projects of improvement in fire-engines, and some of them, I am very ready to confess, either very loosely described or not very accurately conceived: I do not undertake to pronounce which, but one or other is pretty clear. They are the fourth and fifth articles: the first, second, third, and sixth, appear to me to belong to this method, and very clearly to point out and explain the method to every man who has a common acquaintance with the subject, and to be intelligible even to those who are unacquainted with it. If there be a specification to be found in that paper, which goes to the subject of the invention as described in the patent, I think the rest may very well be rejected as superfluous. If, indeed, the defendant could have shown, that he had not pirated the

Every detail in a process need not be ascertained in the specification

Precise extent of benefit derivable from a invention was not to be ascertained, provided there be a sufficient benefit to render it worthy of adoption

Steam good if it goes to subject of patent, not necessary to make had by statements before the court

invention which is sufficiently specified, but that what he hath done hath a reference to another method of lessening the consumption of steam, to which the questionable parts of the specification were meant to relate, the objection to the specification would have remained, and perhaps some other objections, which have been alluded to, might have been taken both to the patent and specification. But I would observe here, that, with regard to this and some other difficulties, there is no question reserved in this case respecting the infringement of the patent; the general fact only is stated, that it has been infringed by the defendant, and, in the consideration of a case reserved, we are not to search for difficulties upon which the parties have not proposed to state any point to us for our judgment, and into which, I think, we are not at liberty to go. The difficulty which struck me, as it did my brother Buller, with respect to the declaration, is applied to the patent as it originally stood, not as it now stands, continued by the Act of Parliament: if we were at liberty to go into it, that difficulty might, perhaps, produce a nonsuit, and that nonsuit a new action, in which the difficulty would be removed. But this cause was instituted to try the merits of the patent; I thought, therefore, that a formal objection was wisely overlooked. Supposing, then, the difficulty upon the patent itself and the specification to be got over, the Act of Parliament remains to be considered. The objection, stated in the strongest manner, would amount to this, that the Act continues a patent for a machine, when, in fact, the patent is for a process. It is to be observed, that there is nothing technical in the composition or the language of an Act of Parliament: in the exposition of statutes, the intent of Parliament is the guide. It is expressly laid down in our books,—I do not here speak of penal statutes,—that every statute ought to be expounded, not according to the letter, but the intent. 2 Roll. Abr. 118; Plowd. 350, 363. This doctrine has been carried into effect by cases: though a corporation be misnamed in an Act of Parliament, if it appears that the corporation was intended, it is sufficient, 11 Co. 57, b. So the statute of *Quia emptores terrarum* has said, that every one shall hold of the lord paramount, *secundum quantitatem terræ*, but this shall be construed to be, *secundum valorem terræ*, for so was the intent. Plowd. 10, 57. We all know that an Act of Parliament may be extended by

equity. No authority has been cited which amounts to proof that a mistake in point of description, in an Act of Parliament of this nature, when the true meaning can be discovered, and when there is a foundation on which the Act can be supported, shall vitiate it. The case cited from Plowden differs essentially from this case. The Act of Parliament in that case gave effect to a supposed legal attainder, and proceeded upon it altogether: if the groundwork fell and there was no legal attainder, nothing remained; the supposed attainder in that case fell, consequently all fell. Now the difference between that case and the present is this;—here the true patent meant to be described exists, and may, therefore, be a ground-work to support the Act. This case was compared to the case of the King being deceived in his grant, but I am not satisfied that the King, proceeding by and with the advice of Parliament, is in that situation, in respect of which he is under the special protection of the law, and that he could, on that ground, be considered as deceived in his grant; no case was cited to prove that position. The objection on the Act of Parliament is of the same nature as one of the objections to the specification; the specification calls a method of lessening the consumption of steam in fire-engines a principle, which it is not; the Act calls it an engine, which perhaps also it is not; but both the specification and statute are referable to the same thing, and, when they are taken with their correlative, are perfectly intelligible. Upon the wider ground, I am therefore of opinion, that the Act has continued this patent. A narrower ground was taken in the argument, which was to expound the word "engine" in the body of this Act, in opposition to the title of it, to mean a method; and I am ready to say, I would resort to that ground, if necessary, in order to support the patent, *ut res magis valeat quam pereat*. But it is not necessary: for let it be remembered, that though monopolies in the eye of the law are odious, the consideration of the privilege created by this patent is meritorious, because, to use the words of Lord Coke, "the inventor bringeth to, and for, the commonwealth, a new manufacture by his invention, costs, and charges." I conclude, therefore, that the judgment of the Court ought to be for the plaintiff.

The Court being thus equally divided, two Judges being for, and two against, the validity of the patent, no judgment was given,

This question came afterwards to be decided in the Court of King's Bench, in the case of *Hornblower v. Boulton*,* which went thither by error from the Court of Common Pleas.

BOULTON AND WATT v. BULL.

In the Court of Chancery, June 2, 1796.

BOULTON and Watt had obtained a patent for a fire-engine, under which they had been in possession upwards of twenty years. The bill was filed for an injunction to restrain the defendant from infringing the patent, and an injunction was obtained, that the question as to the validity of the patent might be tried at law. The plaintiffs brought an action in the Court of Common Pleas, and obtained a verdict, subject to the opinion of the Court, upon a case stated. Upon argument of that case, the Court was equally divided.

Mr. Graham, on behalf of the defendant, moved to dissolve the injunction.

The Attorney-General, for the plaintiffs, argued that it was the most ordinary jurisdiction of the Court to say they will not alter the possession till the right is decided at law. I admit that we are bound to bring another action.

Lord Chancellor Loughborough.—I cannot put the patentees upon the acceptance of terms, that, upon collateral reasons, they think may be disadvantageous to the exercise of the right of which they are in full possession; neither can I put them out of possession upon the difference of opinion of the Court,—that is not the fault of the plaintiffs. What has passed in the Court of Common Pleas does not shake their right, but strongly supports it. The verdict, though it has failed of effect, is not to be disregarded. The opinions of the Judges on both sides are deserving of great respect. If nothing can be done upon this, there must be another action. In the meantime, the injunction must be continued. I will not put them to compensation; I will not disturb the possession of their specific right. It is of notoriety, that this fire-engine has been erected in many parts of the country with great advantage.

Injunction continued.

* *Post*, p. 156.

**HORNBLOWER AND MABERLEY v. BOULTON
AND WATT, IN ERROR.**

In the Court of King's Bench, January 25, 1799.

THIS was an action on the case, brought in the Court of Common Pleas, by the defendants in error, against the plaintiffs in error, for infringing a patent.

The declaration stated letters patent granted by the King, dated 5th Jan., 9 Geo. 3, in which, after reciting that Watt, one of the plaintiffs below, had invented "a method of lessening the consumption of steam and fuel in fire-engines," the sole privilege was granted to Watt, his executors, administrators, and assigns, of "making, using, exercising, and vending his said invention" for fourteen years, and by which letters patent, all other persons were prohibited "using, or putting in practice the said invention, or counterfeiting, imitating, or resembling the same, or making any addition to, or subtraction from it, without the licence of Watt;" on condition, that Watt should enrol a specification of his invention in Chancery, within four months. It then stated, that on the 29th of April, in the same year, he did enrol a specification in Chancery,* averring, that such specification "particularly described and ascertained the nature of the said invention, and in what manner the same was to be performed." The declaration then set forth an Act of Parliament, 15 Geo. 3, extending the privilege to twenty-five years, with a proviso, "that every objection in law, competent against the said patent, should be competent against the said Act, to all intents and purposes, except so far as related to the term thereby granted." It then stated, that on the 5th of September, 1777, Watt, by deed, assigned to Boulton (the other plaintiff below) two-thirds of his interest under the patent and Act of Parliament, and then it alleged, that the defendants below, unlawfully and unjustly, and without the licence of the plaintiffs, constructed divers, to wit, ten fire-engines according to, and in and with a method of lessening the consumption of steam and fuel in such fire-engines, in imitation and resemblance of the method of lessening the

* The specification is set out at length in the case *Boulton and Watt v. Bull*, ante, p. 117.

consumption of steam and fuel in fire-engines, so invented by Watt, and secured to him and his assigns.

The defendants below pleaded not guilty; and a general verdict having been found for the plaintiffs below, and judgment given for them by the Court of Common Pleas, although the case was not argued in that Court, the Court having been equally divided in a former case, arising on this patent,* the defendants brought a writ of error, and besides the general error, assigned for error, that the invention for which the letters patent were granted is not an invention of any formed or organized machine, instrument, or manufacture, but of mere principles only, for which no such letters patent could, by law, be granted.

This case was twice argued with great ability, the first time in Michaelmas Term, 1798, by *Mr. Gaselee*, for the plaintiffs in error, and *Mr. Holroyd* for the defendants, and now by *Mr. Sergeant Le Blanc* for the former, and *Mr. Rous* for the latter. On behalf of the plaintiffs in error, it was argued, first, that unless the patent could be established as for a formed machine, it could not be supported under the proviso of the statute 21 Jac. 1, c. 3, which is the only foundation of such a patent; secondly, that upon reading the patent in question, it could not be considered as a patent for such a machine; thirdly, that the specification did not contain a sufficient description of a machine; and, fourthly, that the patent was taken for the whole, when it ought to have been for an addition only: the addition alone appearing, in the specification, to be of the plaintiff's invention.

But the Court gave judgment in favour of the plaintiffs in error.

Lord Kenyon, Chief Justice.—It was rather from a deference to the very respectable opinions given in the Court of Common Pleas on the former occasion, than from any doubt we entertained on the subject, that a second argument was awarded here: but the case having been most ably argued, and every argument advanced at the bar that bears upon it, I wish to deliver my opinion now, to prevent any further delay to the parties interested. I confess I am not one of those who greatly favour patents; for though in many instances, and particularly in this, the public are benefited by them, yet, on striking the balance upon this subject, I think that great oppres-

* *Boulton and Watt v. Bull*, ante, p. 117.

sion is practised on inferior mechanics by those who are more opulent. The principal objection made to this patent by the plaintiffs in error is, that it is a patent for a philosophical principle only, neither organized or capable of being organized; and if the objection were well founded in fact, it would be decisive: but I do not think it is so. No technical words are necessary to explain the subject of a patent; as Lord Hardwicke said, upon another occasion, "there is no magic in words." The questions here are, whether, by looking at the patent, explained as it is by the specification, it does not appear to be a patent for a manufacture, and whether the specification is not sufficient to enable a mechanic to make the thing described? The jury have not, indeed, answered those questions in the affirmative in terms; but they have impliedly done so by finding a general verdict for the plaintiffs below. By comparing the patent and the manufacture together, it evidently appears that the patentee claims a monopoly for an engine or machine, composed of material parts, which are to produce the effect described, and that the mode of producing this is so described as to enable mechanics to produce it. Having said thus much, it appears that the subject, as far as we have to treat of it, is exhausted. I have great respect for the contrary opinions that were given in the Common Pleas, and probably, if I had been called upon on a sudden to determine this case, I should have been at a loss how to decide. But having now heard everything that can be said on the subject, I have no doubt in saying that this is a patent for a manufacture, which I understand to be something made by the hands of man.

Subject of Patent to be described in ordinary terms
Is the patent as described in the spec. for a manufacture, & is it practically applicable to a mechanic?

Mr. Justice Ashhurst.—Every new invention is of importance to the wealth and convenience of the public; and when they are enjoying the fruits of an useful discovery, it would be hard on the inventor to deprive him of his reward. In this case, the jury have found by their verdict, that all the allegations in the declaration were proved; one of which was, that the inventor had, by his specification, particularly described the nature of his invention, and the manner in which it was to be performed; and having thus complied with the terms of the patent, I think he is, in point of law, as well as justice, entitled to the benefit which the patent and the Act of Parliament intended to confer on him.

Mr. Justice Gross.—This is an action for violating that right, supposed to have been given originally for fourteen years by the patent in 1769, and contended to be continued to James Watt, his representatives and assigns, for twenty-five years, by the statute in 1774. The statute recites the patent, the benefit of which is now determined by flux of time; and, therefore, the action can only be sustained on the continuance of that benefit to the patentee by the legislature. The statute, however, expressly provides, that every objection in law, competent against the patent, shall also be competent against the statute; that is, against the benefit to be derived to the patentee under the statute. The question then is, whether the patent be good in law; in other words, whether it be conformable to the statute of 21 Jac. 1, c. 3, s. 6, under which the plaintiff, or any party, can alone claim the privilege of a monopoly. The power thereby reserved to the King is, “that any declaration before-mentioned shall not extend to any letters patent and grants of privilege, for the term of fourteen years or under, thereafter to be made, of the sole working or making of any manner of new manufactures within this realm, to the true and first inventor and inventors of such manufactures, which others, at the time of making such letters patent and grants, shall not use, so as also they be not contrary to the law, nor mischievous to the state, by raising prices of commodities at home; or hurt of trade, or generally inconvenient.” The questions upon this patent are, whether it be a patent for the sole working or making of any manner of new manufacture; whether the patentee were the first inventor; whether it be contrary to law, mischievous to the state or to trade, or generally inconvenient?

By a proviso in the patent, the patentee is bound particularly to describe and ascertain the nature of his invention, and in what manner the same was to be performed, by an instrument in writing under his hand and seal, and to cause the same to be enrolled in Chancery. On which another question arises, namely, whether the specification enrolled be sufficient. The aim of the legislature is obvious; on the one hand, it was to encourage ingenious artificers, and able and studious men, to invent and bring forward, for the use of the public, new manufactures, the produce of their own ingenuity, by holding out to them

the reward of fourteen years' monopoly; on the other hand, to secure to the public the benefit of the discovery, by causing to be enrolled a complete description of the thing to be done, and the manner of doing it, that others might be fully informed of it; and, at the end of the fourteen years, to be enabled to work or make the manufacture of which the patentee was the inventor. Upon some of the questions there seems to be no doubt: there is no doubt on this record, coupled with the finding of the jury, that the patentee was the inventor of that which is stated in the declaration to be (by whatever name it may be called) an invention, method, principle, or manufacture. Neither is it contended, that the subject of the patent is mischievous to the state, hurtful to trade, or generally inconvenient. On the contrary, every man's experience, as far as report goes, tells him that the invention has infinite merit, is for very many purposes highly beneficial to the public, and is in great request. As to the specification, I shall content myself with repeating what was said by one of the learned judges of the Court of Common Pleas, that if the specification be such as to enable artists to adopt the invention and make the manufacture, it is sufficient. It is averred in the declaration, that the patentee did, in pursuance of the proviso, particularly describe and ascertain the nature of the invention, and in what manner the same was to be performed, by an instrument in writing under his hand and seal enrolled in the Court of Chancery; that fact was necessary to be proved to entitle the plaintiffs to a verdict, and by the verdict which they obtained, I consider that fact as ascertained and concluded in their favour.

The important question is, whether it be a patent for the making or working of any manner of new manufacture? It is argued by the plaintiffs in error, first, that it is a patent for a mere principle, and not for a new manufacture, and that nothing can be the object of a patent but a new manufacture; secondly, that if it be a patent for a manufacture, namely, the steam-engine, it is not new, and that the patent should have been for the addition only, and not for the whole engine. As to the first of those propositions, that under the statute of James there cannot be a patent for a mere principle, which this is contended to be, it is not necessary for me, in my way of considering the case, to form a decided opinion on

*Spec. sufficient if it
enable artists to
adopt the invention.*

that point ; for if I can show that this is a patent for a new manufacture, whether a patent for a mere principle be good or not, will be immaterial. Upon that point I shall only say, that having very much turned the question in my mind, and weighed and considered again and again the words of the statute, specifying what patents the Crown may grant, upon which alone I conceive the question must ultimately depend, I am not prepared to say that a patent for a mere principle was intended to be comprehended within those words. It is indeed difficult to conceive that the Legislature, in giving power to the Crown to grant patents for the sole working or making of any manner of new manufacture, intended a power to grant patents for any other purpose than those expressly mentioned. But, as I said before, this is not material for me to determine, inasmuch as it seems to me, upon the best consideration, that this is not a patent for a mere principle, but for the working and making of a new manufacture within the words and meaning of the statute. I have been led to adopt this opinion by considering the words and description of the invention in the patent, as referring to, and explained by, the specification, and the specification itself as part of the patent. The ground on which I have felt myself at liberty to do so is this. The benefit to the public is from the specification disclosing to the world how others may make and use the same manufacture; without the specification the public have not that information; and by the condition of the letters patent, without the specification the patentee is not entitled to his monopoly. It being provided therefore by the patent that there must be a specification, and there being necessarily one in consequence of that proviso, I consider the patent and specification so connected together as to make a part of each other, and that to learn what the patent is, I may read the specification and consider it as incorporated with the patent. Now the patent recites that Mr. Watt had invented a method of lessening the consumption of steam and fuel in fire engines; it grants to him the sole use and exercise of that invention, upon condition he would disclose the nature of the invention, and in what manner the same was to be performed by an instrument enrolled. He does so, and that instrument describes the principles of the method, and the method by which those principles are to be carried into

Patent & Spec. to be taken together in determining nature of invention

effect. The method is founded on the principles of keeping the steam vessel the whole time the engine is at work as hot as the steam that enters it: this is to be done by the manufacture of a case of wood, or some other material that transmits heat slowly, and by surrounding it with steam or other heated bodies, and suffering neither water nor any other substance colder than steam to touch it. Secondly, he points out a mode of condensing the steam by vessels to be used distinctly from the steam vessels at some times; at others, they are to communicate with them, which he calls condensers; and these are new, at least not part of the old engine, and are to be kept as cold as the air in the neighbourhood of the engines. Thirdly, he gives directions as to drawing out the air not condensed by the cold of the condenser. Fourthly, he states how he means to employ steam to press out the piston in given cases. Fifthly, he directs how steam vessels should be formed where rotatory motions, or motions round an axis are required, namely, with weights and valves; and directs how in such case the steam vessel shall be supplied with steam, and how that which has done its office shall be discharged. And he also states a method by which the engine may be worked by the alternate expansion and contraction of the steam. This method, however, if not effected or accompanied by a manufacture, I should hardly consider as within the statute of James. But it seems to me that in this specification he does describe a new manufacture, by which his principle is realized, that is, by which his steam vessel is kept as hot as the steam during the time the engine is at work, by which means the consumption of steam and fuel is lessened. Thus he specifies the particular parts requisite to produce the effect intended, and states the manner how they are to be applied. He describes the case of wood in which the steam vessel is to be enclosed, the engines that are to be worked wholly or partially by condensation of steam, the vessels that he denominates condensers, and the steam vessel where rotatory motions are required. Can it then be said that the making and combining of these parts is not some manner of new manufacture? I cannot say that it is not. But if that had been doubtful, the verdict ascertains the fact. But then it is objected that the patent should have been for the manufacture; whereas it is for principles which the

specification describes. To which I answer, that the patent is not merely for principles, nor does the specification describe principles only. The patent states the principles on which the inventor proceeds, and shows in his specification the manufacture by means of which those principles are to take effect; which is to be the lessening of the consumption of steam and fuel by keeping the steam vessel of one uniform heat with the steam so long as the engine is worked.

Taking it, however, as a patent for an engine, it is objected that the thing was made before, and that the patent should have been for the addition only, and not for the whole engine. But I do not consider it as a patent for the old engine, but only for the addition to, or improvement of the old engine, and so the Act of Parliament considers it. The old engine consumed too much steam and fuel, and it was considered that by a case of wood, or of other material that would transmit heat slowly, surrounding it with steam by the use of condensers, and doing that which was not done in the old engine, but is in this, the defects in the old engine might be corrected, and the new one, by its addition, made more useful. Experiments were tried, as appears by the Act of Parliament, and the purpose for which these additions were made is ultimately found to be completely attained by the method pointed out in the specification. It possibly occurred to the inventor that if the patent were to be obtained for the whole engine, it might be open to cavil, and therefore he took out his patent not for the engine, but for his invention of a method for lessening the consumption of steam and fuel in fire-engines. The method is disclosed in the specification, and it is by the addition of what is there disclosed, and by managing it in the way described. The patent therefore is only for that additional improvement, as described in the specification, and there is no pretence to say that he claims, or could claim, the sole making of the old engine. But a doubt is entertained whether there can be a patent for an addition to an old manufacture: this doubt rests altogether upon *Bircot's case*, 3 Inst. 184, and if that were to be considered as law at this day, it would set aside many patents for very ingenious inventions, in cases where the additions to manufactures before existing are much more valuable than the original manu-

factures themselves. I shall content myself with referring to what Lord Chief Justice Eyre said in this cause in the Court of Common Pleas, in answer to this, and to the case of *Morris v. Bramson*, cited by my brother Buller upon the same point. If indeed a patent could not be granted for an addition, it would be depriving the public of one of the best benefits of the statute of James. Lord Coke's opinion therefore seems to have been formed without due consideration, and modern experience shows that it is not well founded.

The statute 15 Geo. III., I observe, secures to the patentee the privilege of constructing and selling the engines in words; on which account it has been objected that it falsely recites the patent, and therefore cannot operate in support of it; but the statute must have a reasonable construction to support rather than defeat the intention of the Legislature and their grant; and by attending to every part of the statute, it is obvious that the engines secured to the patentee are such as are improved in the manner stated in the specification, and not the original fire-engines. For the statute reciting the patent, recites it as a grant of the benefit and advantage of making and vending "certain engines by him invented for lessening the consumption of steam and fuel in fire-engines." Now those were not the original fire-engines, but the improved ones, and those that were so improved were the only ones invented for lessening the consumption of steam and fuel in fire-engines; which shows that the Legislature considered the patent as a patent for the improvement of the engine described in the specification, and not as a patent for a mere method or for the original fire-engine. The subject is new to me, not affecting to be a mechanic, and I have had great difficulties in making up my mind upon it. I am inclined, however, to think that a patent cannot be granted for a mere principle; but I think that although, in words, the privilege granted is to exercise a method of making or doing anything, yet if that thing is to be made or done by a manufacture, and the mode of making that manufacture is described, it then becomes in effect (by whatever name it may be called) not a patent for a mere principle, but for a manufacture, for the thing so made, and not merely for the principle upon which it is made. Where, then, is the mischief to the public, or

No patent for a mere principle but a principle suitably applied to described cases within the meaning of the statute

how in this case is the intention of the Legislature defeated? They intended that, after fourteen years, the public should, from the specification, be in possession of the manufacture and the art of making it, and that for those fourteen years the patentee should have the monopoly of it as his reward. The patent is nothing without the specification, and the patentee can gain no advantage by it. It is also useless unless the specification be such from which the public may gain information; therefore, whether the patent call the manufacture by its name, or style it an invention, a mode, a method, or any other manner, it signifies nothing, for the specification describing the thing as required by the patent must be resorted to, and may fairly be deemed a part of the patent itself. If that be so, I read this patent, and find that it is for a method to be pursued according to the directions of the specification, and looking to the specification, I see that by pursuing the method pointed out, a manufacture is produced by the ingenuity of the inventor, and of which the public are to have the benefit. Then the intention of the Legislature is fulfilled; the public enjoy the fruits of the author's ingenuity, and the author gets the monopoly for a certain term. It signifies nothing to either, whether the patent be for the engine so made, or for the method of making it, if that method be sufficiently described in the specification. Upon these grounds, with that deference which I ought to feel upon a subject with which I do not profess myself to be much conversant, my opinion is, that the judgment of the Court of Common Pleas ought to be affirmed.

The matter described in the specification is the real point for the particular application used to distinguish the invention.

Intend of Legislature is fulfilled by the particular directions by following which a new manufacture is produced.

Mr. Justice Laurence.—Two objections have been made by the plaintiffs in error; first, that this is not an invention for any formed or organized machine, instrument, or manufacture, but of mere principles only: secondly, that the specification is bad. As to the first, the claim of the plaintiffs below is founded on the proviso in the statute of James, which allows the Crown to grant patents in favour of new manufactures, and therefore it must rest on the ground of Watt having invented some new manufacture. If it were necessary to consider whether or not mere abstract principles are the subject of a patent, I should feel great difficulty in deciding that they are: but that consideration is unnecessary on the

present occasion, because, by looking at the patent and the recital in the Act of Parliament, it appears that Watt applied for and obtained a patent for an engine or mechanical contrivance for lessening the consumption of steam in fire-engines. The letters patent recite that he had invented a method of lessening the consumption of steam, and grant to him the sole right of using the said invention for fourteen years. In order to see what the invention was, it is necessary to refer to the specification; that states what the invention is, and that the method consists in certain principles, as they are called, which are described in the specification. Then followed the statute, which, after reciting that the King had granted to Watt the sole benefit of making and vending certain engines, invented by him, for lessening the consumption of steam in fire-engines, and that there was enrolled in the Court of Chancery a description of the said engine, vests in him the sole right of making and selling the said engines for twenty-five years. From this therefore it is clear that the Legislature understood that the patent was for an engine for some mechanical contrivance, and the form of the patent and the specification does not contradict this. "Engine" and "method" mean the same thing, and may be the subject of a patent. "Method," properly speaking, is only placing several things, and performing several operations, in the most convenient order: but it may signify a contrivance or device; so may an engine, and therefore I think it may answer the word "method." So "principle" may mean a mere elementary truth, but it may also mean constituent parts: and in effect the specification is this, "the contrivance by which I lessen the consumption of steam, consists in the following principles" (that is, constituent or elementary parts); "a steam vessel, in which the powers of steam are to operate, to be kept as hot as the steam by a case; a distinct vessel to condense the steam; and pumps to draw off such vapour as is likely to impede the motion of the fire-engine," &c. That is the description of the thing when put into different language. Then taking this to be a patent for an engine, it is objected that the specification is bad. In considering that question, it is necessary to see for what Mr. Watt has obtained his patent: he does not claim it for an improvement to a fire-engine for any particular purpose,

The terms "engine" "method" & "principle" may be construed to mean substantially the same thing.

"Principle" may mean constituent parts

e. g., for raising water out of mines, or any other specific thing; but his claim is generally to an invention for lessening the consumption of steam applicable to all fire-engines for whatever purpose they may be used, and whatever may be their construction, by an alteration of, and addition to, parts which are common to all, and upon which their powers of working depend. The objection that requires a more full description of the engine, goes the length of requiring a description of every engine that is acted upon by the force of steam. But I do not think that if his specification had been so comprehensive, his invention would have entitled him to a patent for the sole vending and making the whole engine so altered and improved; for such a patent would have been more extensive than the thing invented: the patent must be supported, as grafted for an improvement and addition to old engines, known and in use; and I think that the patent is good in this point of view. For Watt claims no right to the construction of engines for any determinate object, except that of lessening the consumption of fuel in such pre-existing engines, and for nothing else. In the argument the engine to diminish the consumption of steam was confounded with that which was intended to improve. Some of the difficulties in the case have arisen from considering the word engine in its popular sense, namely, some mechanical contrivance to effect that to which human strength, without such assistance, is unequal; but it may also signify "device;" and that Watt meant to use it in that sense, and that the Legislature so understood it, is evident from the words "engine" and "method" being used as convertible terms. Now there is no doubt but that for such a contrivance a patent may be granted, as well as for a more complicated machine; it equally falls within the description of a "manufacture," and unless such devices did fall within that description, no addition or improvement could be the subject of a patent. If this be so, it only remains to be considered whether or not, for the improvement of fire-engines, Watt has with sufficient accuracy stated a definite alteration or addition, which may be made in all fire-engines, in such a way as to enable a workman to execute it; and it seems to me that he has; for he has directed him to make a vessel for the condensation, distinct from that in which the powers of steam operate, and to convey the steam, as

occasion requires, from the cylinder to the condensing vessel, to keep the cylinder hot by means distinctly described, and to extract by pumps the vapour which may impede the work; therefore it seems to me that he has given distinct directions for the purpose: whether those directions were or were not sufficient, is not now a question for our decision; it was a question for the determination of the jury, and they have decided it.

Judgment affirmed.

BRAMAH v. HARDCASTLE.

In the Court of King's Bench, Trinity Term, 1789.

THIS was an action on the case for infringing letters patent,* granted to the plaintiff for the sole making,

* The specification was in the following words:—

“To all to whom these presents shall come,—I, Joseph Bramah, of Cross-court, Carnaby-market, in the county of Middlesex, Cabinet Maker, send greeting.—Whereas his most excellent Majesty King George the Third, by his letters patent under the Great Seal of Great Britain, bearing date at Westminster the 27th day of January, in the eighteenth year of his reign, did give and grant unto me, the said Joseph Bramah, his special license, full power, sole privilege, and authority, that I, the said Joseph Bramah, my executors, administrators, and assigns, should, and lawfully might, during the term of years therein expressed, make, use, exercise, and vend, throughout that part of his Majesty's kingdom of Great Britain called England, the dominion of Wales, and town of Berwick-upon-Tweed, my invented water-closet upon a new construction; in which said recited letters patent is contained a proviso, obliging me, the said Joseph Bramah, by writing under my hand and seal, to cause a particular description of the nature of my said invention, and in what manner the same is to be performed, to be enrolled in his Majesty's High Court of Chancery within four calendar months after the date of the said recited letters patent, as in and by the said letters patent and the statute in that behalf made, relation being thereunto had, may more at large appear.—Now know ye, that in compliance with the said proviso, and in pursuance of the said statute, I, the said Joseph Bramah, do hereby declare, that my said invention is composed and made in manner following: that is to say; The merits of this my invention depend chiefly on two valves, so situated and constructed as totally to prevent the great inconvenience complained of in every sort of water-closet heretofore made use of. One of these valves is placed at some distance from the bottom of the bason in the soil pipe, or a led box joined to the said pipe, proper for receiving it: the other is in the upper part of the feeding pipe, or a led box, which is joined to the said pipe and to the reservoir. These valves, being both actuated by one movement, causes fresh water to be admitted into the bason at

vending, &c., of a newly constructed water-closet, for fourteen years, tried before a special jury.

The specification states, "The merit of this my invention depends chiefly on two valves, so situated and constructed as totally to prevent the great inconvenience complained of in every sort of water-closet heretofore made use of;" and then states the operation of the valves to be by one pull or motion, letting the water in and out at the same time; their situation and mode of acting; and the preventing the return of the smell through the waste pipe by a curve therein, which curve always remains filled with water, and consequently, prevents all return of the smell through that pipe.

The plaintiff established, by the evidence of many witnesses, the superiority of his water-closet to the others

the same time its contents is discharging. The intention and effects of the valve, which is fixed under the bottom of the bason, is to reserve a proper quantity of water therein, and by that means cuts off all communication of smell or stench which might otherwise arise from the soil pipe, drains, or cess-pools. This valve moves on a horizontal axis, and in such a direction that its surface is thoroughly washed every time the contents of the bason is discharged, both by the water falling upon it whilst opening, and by its meeting the water when shutting it again. The intent of the other valve, being placed in the top part of the feeding pipe, is to cause such pipe always to be left empty. In order to prevent the bad effects of the frost, which hath always been a complaint of water-closets, this valve opens and shuts in a manner similar to that already described, always meeting the natural currency of water when shutting, and falls from it when opened, and is not liable at any time to have its motion obstructed by the frost. No part being immersed in water, its movement is communicated through a lead pipe or tube, soldered into the part where it acts, and is continued above the highest surface of the water in the reservoir, so that this movement is not exposed to the water which is retained in the reservoir, which is the particular advantage of this part of this invention which hath not hitherto attended any other kind of water-closets; since all valves, plugs, &c., yet made use of for this purpose, have had their movements in the water they are meant to retain, for which reason they were always liable to be set fast by the frost, and thereby rendered useless during the continuance thereof. The bason for this water-closet may be anyways varied in shape and size without prejudicing any of the essential properties already mentioned. The figure or drawing hereunto or hereunder annexed will more plainly show the true nature and disposition of the parts of this invention. [There is a drawing and description to the specification, but the same are not necessary to the invention being well understood.]—In witness whereof, I have hereunto set my hand and seal this twentieth day of May, in the year of our Lord one thousand seven hundred and seventy-eight.

"JOSEPH BRAMAH."

before used. That the operation of it was by two valves, placed horizontally and opening downwards, the one to let in the water, the other letting the soil, with the water, out. That former machines stopped the apertures by plugs pulling upwards: that in them the wire passed through the water, and in contact with it, for the purpose of pulling up the plug or valve, which let the water into the machine, and was thereby frequently obstructed by the frost: and that by the plug or valve being at the bottom of the feeding pipe (which is the pipe conveying the water into the machine), that pipe always remained full of water, and, consequently, its operation was frequently obstructed by frost.

The plaintiff had remedied both these inconveniences: the first by conducting the wire in a hollow tube through the water, and thereby preventing the wire from being in contact with the water; and the latter, by placing the valve at the top of the feeding pipe: consequently, when the valves were shut, all the water in that pipe emptied itself into the machine, and the pipe itself always remained empty.

It appeared in evidence, that the plaintiff had made two or three of these machines before he obtained his patent; but *Mr. Bearcroft* admitted that circumstance would not invalidate the patent, unless the invention had likewise been used by others, the statute empowering the King to grant the monopoly for fourteen years of any manner of new manufacture to the first inventors, which others at the time of making the patent shall not use.

Mr. Bearcroft, for the defendant, admitted, that for an addition the Crown may grant a new patent; but insisted, that the wires passing through the pipes was the only part new for which the plaintiff might have had a patent; but this patent goes further, claiming the monopoly of the whole water-closet as if he were the inventor of the whole; the patent is, therefore, void. If any part which he claims by his patent be not new, the whole patent is void. The specification claims the valves; they are not new valves, but have been applied to water-closets before.

Lord Kenyon assented.

The defendant's witnesses proved these facts, and that a valve and plug had been used to the same water-closet.

Mr. Erskine, for the plaintiff, admitted that valves were not new inventions, but insisted that the application of

them to this machine in the manner described, by placing them horizontally, so that they open downwards, thereby acting more freely and without any obstruction, and free from filth, was new. He contended, that for that new invention, and not for the basin, pipes, and valves themselves, is the patent sought or obtained. If the objection would hold, no patent for any mechanical invention could be maintained, because all the mechanical powers amount but to five, and are all well and anciently known. No protection should be granted for the sole publishing of any book, because all the letters and words of which it is compounded were well known and understood before. The same will hold of watches, which go upon wheels that were used, and upon the same principles in mills, before they were so applied to watches. The question, therefore, is, not whether the valve was new, but whether a valve had been so used or applied before, to obtain this effect, before applied to the same use; and he insisted that the valve thus used was never so used before, consequently, was a new invention. We do not seek by the patent to prevent persons from doing what they had done before. Suppose a person had done this by a valve placed vertically instead of horizontally, no action would lay for it; it would be no infringement.

Lord Kenyon.—I doubt that: if a thing so near was done, I think it would be an infringement. In my opinion, the stress of the cause mainly depends upon this, whether the thing granted by the patent be entirely new. The conducting of the wire through the hollow tube, to prevent obstruction from frost, I admit, is very ingenious and perfectly new, but is not claimed by the patent. Unlearned men look at the specification, and suppose everything new that is there. If the whole be not new, it is hanging terrors over them. The plaintiff goes to the King, saying, Here are offensive smells: these are prevented by two valves, causing the water to rush in and out at the same time. That is not new: in a former machine there was one valve and a plug. The question for your consideration is, whether in principle that is the same, whether the effect obtained of stopping the apertures is by the same means? Whether those means differ in shape or not, I think is not material. His Lordship concluded with telling the jury, the patent was void, the invention not being new; and that they should find a verdict for the defendant.

*Every thing contained
in p. 5 is held as
being unhelpful
disclaimer.*

*Identity of principle
the main point
independently of
particular means
of any sort
effect*

The jury found a verdict for the plaintiff, and the verdict was not afterwards disturbed.

IN RE JOSEPH BOOTH'S PATENT.

IN 1792, Joseph Booth had obtained patents for England and Scotland, for a machine or apparatus, and certain chemical compositions, for making various kinds of woollen cloth, containing the usual condition of his enrolling a specification within four months after their respective dates.

An Act of Parliament (32 Geo. 3, c. 73), in order to prevent the invention getting to foreign countries, allows him (instead of enrolling within four months) to deliver his specification within eight months, to the Lord Chancellor, who shall appoint two persons to examine the process therein described, such persons making oath not to divulge the process, to which they shall attend in order to complete and perfect the specification: they shall answer all questions which shall at any time afterwards be demanded of them by the Lord Chancellor respecting the same, and shall return the specification altered and amended, if need be, to the Lord Chancellor, with an affidavit by them, and by Joseph Booth, that the specification fully and accurately defines and describes the whole invention and discovery, and method of using the same. The specification and affidavits shall be enclosed in a cover, under seal of the Lord Chancellor, and shall be lodged in the office of one of the masters, to be by him appointed. This packet shall not be removed, except by order of the Lord Chancellor, who may open the same if required on account of application being made for patents for a similar invention, or on account of any trial at law: and after such use, the packet shall be sealed again, and deposited with the master, to remain there until the end of the fourteen years, the term of the patent; and then the specification shall be enrolled as directed by the patent.

CAMERON *v.* GRAY.

In the Court of King's Bench, June 13, 1795.

Mr. Gaselee moved to change the venue in this action, which was for infringing the plaintiff's patent, from Middlesex to Northumberland, upon the common affidavit that the cause of action arose in the latter county.

Lord Kenyon.—The plaintiff cannot make the proper and necessary affidavit, that the cause of action arose wholly in Northumberland, and not elsewhere, when it is manifest that the substratum of the action, namely, the patent, is at Westminster.

Rule refused.

JOHN AND CHARLES CARTWRIGHT *v.* AMATT
AND ANOTHER.

In the Court of Common Pleas, November 18, 1799.

THIS was an action on the case for the infringement of a patent.* The declaration, after stating the grant of letters patent to one Edmund Cartwright, the enrolment of the specification, &c., proceeded to aver that the said Edmund Cartwright, afterwards and before the committing the grievances after mentioned, by a certain indenture made between the said Edmund Cartwright of the first part, the plaintiffs of the second part, and certain other persons therein mentioned and referred to of the third and fourth parts, did, for the considerations therein mentioned, assign and set over unto the plaintiffs, their executors, &c., the before-mentioned letters patent, saving, excepting, and reserving unto the said Edmund Cartwright, his executors, and administrators, until the final determination and conclusion of a certain suit then depending, and now long since ended and concluded, such of the said letters patent as should be necessary to be given in evidence for the support of the said suit, and the legal right and interest of the said Edmund Cartwright in and to the same.

* This case in no way calling the specification into question, there would be no advantage in introducing that document.

The cause came on to be tried before *Mr. Justice Rooke*, at Guildhall sittings, after Trinity term, 1799, when the deed of assignment being produced in evidence, it appeared from the recital that as there was a suit depending between Edmund Cartwright, plaintiff, and William Toplis, defendant, respecting an infringement of certain letters patent, and until such suit had been legally tried, the legal right or property of the said Edmund Cartwright in such letters patent as related to the inventions of combing wool and similar articles (which were the letters patent in question), could not, it was apprehended, be fully assigned or made over by him to the plaintiffs without hazard of defeating the said suit; it was agreed that in the meantime, and until such suit was determined, Edmund Cartwright should continue legal owner of the patents, in trust for the plaintiffs, in whose custody they were to remain, and who were to have all the benefit arising from them. Then followed an absolute grant of the said letters patent, together with others, to the plaintiffs, with the following exception: "Save and except nevertheless, and out of these presents reserving unto the said Edmund Cartwright until the final determination or conclusion of the suit or action now depending between him, the said Edmund Cartwright, and the said William Toplis, all such of the said herein-before mentioned patents as are or shall be necessary to be given in evidence for the support of the said suit or action, and the legal right or interest of the said Edmund Cartwright in and to the same, upon the trusts, &c." After the trusts was inserted this covenant for further and better assigning the letters patent, "that when and so soon as the said suit or action now depending between the said Edmund Cartwright and the said William Toplis shall have been finally determined, he, the said Edmund Cartwright, shall forthwith thereafter well and effectually grant, assign, and make over to the plaintiffs upon the trusts, &c., the said herein-before excepted grants or letters patent, touching or relating to the said inventions, and every or any other matters in contest, for which the same were reserved out of these presents and the specifications thereof, and all his legal and other estate and interest therein; and that in the meantime, and until such last-mentioned assignment thereof shall be made and executed, he, the said Edmund Cartwright, shall and

will stand legally possessed of and interested in the same reserved grants or letters patent for the behoof of them the plaintiffs, their executors, &c., subject to the same trusts, &c." It was objected on the part of the defendants, that as no assignment had taken place subsequent to the determination of the depending suit, the legal interest not being vested in the plaintiffs by the deed produced, still remained in Edmund Cartwright, and therefore the plaintiffs could not recover.

The learned judge, being of that opinion, directed a nonsuit.

Mr. Sergeant Runnington, on a former day, moved to set aside this nonsuit, and contended that it was the manifest intention of the parties that the whole legal interest should pass to the plaintiffs as soon as the suit which was depending should be determined; and that the last covenant, which was only inserted *pro majori cautela*, ought not to be allowed to defeat that intention: a rule *nisi* was accordingly granted.

On this day *Mr. Sergeant Shepherd* and *Mr. Sergeant Leas* were to have shown cause against that rule; but

Mr. Justice Rooke said, that on a further consideration of the effect of the deed than was given to it at *nisi prius*, he was convinced that the legal interest vested in the plaintiffs immediately on the determination of the suit that was depending at the time when the indenture was executed.

The rest of the court expressed themselves to be clearly of the same opinion.

Rule made absolute without argument.

EX PARTE KOOPS.

In the Court of Chancery, January 22, 1802.

THE petition was presented by the patentee of an invention for making paper from straw; and the object of it was, that the Lord Chancellor would dispense with the enrolment, or that some provision should be made to prevent the specification from being made public; suggesting the danger, that foreigners might obtain copies of the specification in consequence of the enrolment.

Mr. Sutton and Mr. Roupel appeared in support of the petition.

Lord Chancellor Eldon.—How can I do this? Either upon this, or some other case in the last session, a clause for this purpose was inserted in an Act of Parliament; and upon the motion of Lord Thurlow, upon reasons applying not only to that, but to all cases, and seconded by Lord Rosslyn, the clause was universally rejected; and rejected, as it appeared to me, upon very substantial grounds, in which I readily concur. As to the worth of the apprehension suggested, a man has nothing more to do than to pirate your invention in a single instance, and he will then force you to bring an action; and then the specification must be produced. But with regard to the King's subjects, a very strong objection occurs, which makes it necessary that the specification should be capable of being produced. They have a right to apply to the Patent-office to see the specification, that they may not throw away their time and labour, perhaps at a great expense, upon an invention upon which the patentee might afterwards come with his specification, alleging an infringement of his patent; when, if those persons had seen the specification, they never would have engaged in their project. The enrolment is, therefore, for the benefit of the public.

It was then desired that the time, which would expire on the 17th of the next month, might be enlarged, in order that the petitioner might apply to Parliament.

The Lord Chancellor.—I cannot do that if the patent has passed; for the patent is void if the proviso is not complied with. You should have applied to the Attorney-General, before the patent passed, for a longer time upon the special circumstances. I cannot take the great seal from a patent, and repeal it in the most essential point. It is a legal grant, with a proviso for the benefit of all the King's subjects. You can do nothing except by an Act of Parliament to enlarge the time mentioned in the proviso.

Petition dismissed.

TENNANT'S PATENT.

In the Court of King's Bench, before Lord Ellenborough and a Special Jury, December 23, 1802.

THIS was an action for an infringement of the patent granted to Mr. Tennant.* It was objected that the in-

* The specification was in the following words :—

"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I the said Charles Tennant, do hereby declare, that my said invention is described in the manner following, that is to say; This invention consists in a new method of employing calcareous earth, either uncalcined or in the state of quick lime, for which may be substituted the earth properly called barytes, or that known by the name of strontites, or the earth magnesia, either in their carbonated or calcined forms, though more advantageously in the latter. As all these earths are equally applicable in this invention, it will be sufficient only to specify the way of employing calcareous earth; it being the most abundant and easiest to be procured, will therefore be generally preferred. The calcareous earth (in whatever state of its varieties it is intended to be used, and which may be employed almost indiscriminately, although the purer the better), being calcined and reduced to the state of quick lime, in order to be employed to the greatest advantage, should be passed through a fine wire sieve; which will be easily accomplished, if the lime has been previously slaked with a little water. Next, a proportion of this powdered lime is to be put into the receiver, or vessel in use by the bleacher for preparing his bleaching liquor, and where hitherto a solution of alkaline salts, such as pot and pearl ashes, &c., has been in general used to catch and retain the oxygenated muriatic acid gas; my construction or form of which receiver, or of the apparatus in general, I do not condescend upon, that which is at present in general use answering perfectly well. When the ingredients put into the retort to procure this gas (whether manganese and common muriatic acid; or manganese, common salt, and oil of vitrol; or, indeed, any other materials capable of yielding it), begin to give it out, then it is necessary to keep the liquor in the receiver, which contains the quick lime in as constant a state of agitation as possible, so that the fine particles of the lime be diffused throughout the whole of the liquor in the receiver, for on this the success of the operation depends. I disclaim any right to the discovery of the simple chemical solution of lime in water, commonly called lime water, for retaining and fixing the oxygenated muriatic acid gas, it having been long known that lime water had some effect in this way; but, from the quantity of lime that is soluble in water being so exceedingly small (only about a seven hundredth part of its weight), no great benefit was found to be derived from it; whereas, by this process of keeping the lime in a state of mechanical suspension, floating through every part of the fluid in the receiver, it greedily absorbs the oxygenated muriatic acid gas, forming instantly, as it does so, a soluble compound, which possesses, in an equal or even superior degree, the qualities of the bleaching liquor usually made by the help of an alkaline lixivium, having the very same whiten-

vention was not made by the patentee, but that it was communicated to the patentee in various conversations with a chemist, some two years before the date of the ing and detergent powers, as well as that most valuable one of not discharging dyed colours, but, on the contrary, preserving and enlivening them. I cannot take upon me to state the specific quantity of lime necessary to be put into the receiver for making a given quantity of bleaching liquor, as that must depend entirely upon the strength and other qualities the liquor is wanted to possess; however, by use of the following proportion of ingredients, a very excellent, and comparatively very cheap liquor will be obtained, to what can be procured by using an alkaline ley, strong enough to absorb and retain the oxygenated muriatic acid gas producible from the same materials. In a receiver capable of containing 140 gallons, wine measure, dissolve thirty pounds of common salt, which appears useful only in giving an additional degree of specific gravity to the water, and by that means making it easier to keep the lime, to be afterwards added, suspended; and for which common salt, any other substance possessing a similar power may be used, and which is itself by no means essentially necessary; when this salt is dissolved, add sixty pounds of finely powdered quick lime, and into the retort of the apparatus put thirty pounds of manganese mixed up with thirty pounds of common salt, upon which pour thirty pounds of oil of vitriol, previously diluted with its bulk of water, and the usual precaution of luting the vessel well, &c., taken. When the gas begins to appear, the agitation of the lime and water in the receiver must commence, which should be continued by means of a wooden paddle or rake, of almost any construction, without intermission, until the materials are wrought off (after employing heat as usual), and will not yield any more oxygenated muriatic acid gas. Then the whole should be allowed to remain at rest for two or three hours, when the clear liquor in the receiver may be drawn off for use, and will be found to possess all the qualities before ascribed to it. Although I have mentioned the above proportions of materials for making bleaching liquor by my discovery, I think it necessary to declare that these are not the only ones that will be found to answer, as they may be varied with good effects, almost *ad infinitum*, according to the purpose to which the liquor is to be applied. Also, that the spirit of my discovery consists in my having found out that the calcareous earth, and that called barytes, and that called strontites, either in their carbonated or calcined states, by being kept in a state of mechanical suspension in water or other watery fluid, are capable of uniting with the oxygenated muriatic acid gas, and forming a compound that can be used with great efficacy in bleaching; and also, that these earths thus mechanically suspended, may be used advantageously in the other parts of the process of bleaching, where alkaline salts have been hitherto employed. From the far greater degree of solubility which the earths barytes and strontites possess in comparison to lime, I have discovered that a chemical solution of them may be used with very great effect in neutralizing the oxygenated muriatic acid, and in other processes of bleaching, instead of alkaline substances; and that either the mechanical or chemical suspension of these earths may be employed with great success, although the former will be attended with more than the latter.

—In witness whereof, &c.

"CHARLES TENNANT."

patent, and that the party so communicating the invention was no party to the taking of the patent.* It was also objected that the invention was in public use before the date of the patent.

Several witnesses were called in support of the patent, who proved the great utility of the invention, and the general ignorance of the bleachers of it till after the date of Mr. Tennant's patent.

On the other side, a bleacher, near Nottingham, deposed that he had used the same means of preparing his bleaching liquor for five or six years anterior to the date of the patent. He also stated that he had kept his method a secret from all but his two partners, and two servants concerned in preparing it.†

A chemist, at Glasgow, deposed, that having had frequent conversations with Mr. Tennant on the means of improving bleaching liquor, he had in one of them suggested to Mr. Tennant that he would probably attain his end by keeping the lime water constantly agitated. Mr. Tennant afterwards informed the witness that this method, suggested by the witness, had succeeded. These conversations took place in the year 1796: and Mr. Tennant obtained his patent in 1798.

His Lordship nonsuited the plaintiff.

* The patent was granted to Mr. Tennant as the first inventor, not that he had the invention communicated to him by another. Many patents before as well as since the statute of James I., have been granted to the executors of an inventor, and before that statute many patents were granted to persons having received the communication of inventions from relatives and others then resident in England; in modern times many patents have been granted to receivers of communications from abroad, whether from foreigners or subjects of the British crown.

W. C.

† It does not appear that the Judge gave any opinion as to the previous secret use in Nottingham, whether the same was or was not a using prejudicial to the validity of the patent. In a late case, *Carpenter v. Smith*, it was held that public using was in contradistinction to using in secret, indicating that any degree of secret using would not prejudice a patent; this is in accordance with the case of *Dolland's* patent.—W. C.

HARE v. HARFORD AND TAYLOR.

In the Court of King's Bench, July 14, 1803.

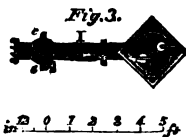
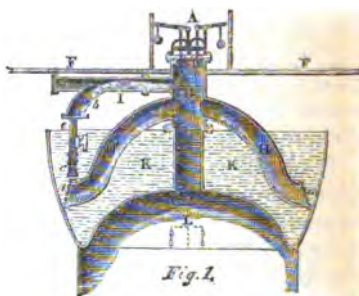
A PATENT was taken out by a Mr. Hare* for an apparatus used in brewing beer whereby the essential oil of

* The specification was in the following words:—

"To all to whom these presents shall come,—I, Richard Hare, of Limehouse, in the county of Middlesex, Brewer, send greeting.—

Whereas the King's most excellent Majesty, by his letters patent under his Great Seal of Great Britain, bearing date at Westminster the 12th day of September, in the thirty-first year of his reign, did give and grant unto me, the said Richard Hare, his special license, that I, the said Richard Hare, should and might make, use, exercise, and vend, within that part of his said Majesty's kingdom of Great Britain called England, dominion of Wales, and town

of Berwick-upon-Tweed, an apparatus whereby the essential oil of hops, which he is informed is the most efficacious and preservative part of that vegetable, and which, till this invention, was lost and dissipated in the air during the operation of boiling worts for beer, is preserved and applied to use, and that by means of the said apparatus his water for brewing is heated to such a degree of heat as he judges necessary, and, as he believes, is customary, and that his said water is heated in less than his usual time of boiling worts for beer, and that without any application of fire to the vessel containing the said water. In which said letters patent is contained a proviso, that if I, the said Richard Hare, did not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed by an instrument in writing under my hand and seal, and cause the same to be enrolled in his said Majesty's High Court of Chancery, within one calendar month next, and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever thereby granted, should utterly cease, determine, and become void, anything therein before contained to the contrary thereof in any wise notwithstanding, as in and by the said letters patent relation being thereunto had may more fully and at large appear.—Now know ye, that I, the said Richard Hare, in compliance with the said proviso, do hereby describe and ascertain the nature of my said invention, and the manner in which the same is to be performed, as follows: (that is to say) A, the



hops, obtained from the steam of the worts, was preserved and used for heating the water for brewing. By a previous invention the water had been boiled by a similar method, which accessorially preserved the oil, although not intended to do so. Held that the patent of Mr. Hare was not new, and a verdict was therefore given for the defendant. The action was brought on a bond conditioned for the payment of money the consideration for the purchase of the patent.

The cause was tried at the Guildhall of the City of London, before Lord Alvanley and a special jury. The plaintiff was Mr. Hare, a gentleman of Bath, who was previously the owner of an extensive brewery at Limehouse, and the defendants were Messrs. Harford and Taylor, his successors in the concern. The action was brought on a bond conditioned for the payment of an annuity to Mr. Hare during the existence of a patent granted to him in September, 1792, in consideration of his licensing the defendants to use the invention for which it was obtained. The defendants pleaded that one Sutton Thomas Wood

trunk which encloses the valves; *b*, the rising; *c*, the sinking valve and frame valve, fig. 3; *d*, the lever with its weight to shift occasionally; *e*, the valve plate, fig. 2 and 3, on which the valve frames are fixed, the valves also are made in it; *f*, the bottom of liquor back; *g*, a large cylinder connected and communicated with the main copper; *h, h*, two double curved branch pipes connected with the cylinder, *g*, and opening into the jack back near its bottom, by the valve, at *a, a*, occasionally; *i*, the straight branch pipe communicating with the cylinder, *g*, with a curve returned at *b*, from the under side in which is inserted the three pipes, *c, d, e*, with their cocks and screws, fig. 3, 1, 2, 3; *k, k*, jack back or boiling back; *l*, the boiler or man and man-hole. The upright pipe or cylinder, *g*, is open into the copper, into which pipe the steam rises when the copper begins to boil. It is stopt at the top by the valves, *b* and *c*, it has free communication into the pipes, *h, h*, where it may pass into the liquor in the jack back or not, as thought proper. It has also a free communication into the straight branch pipe, *i*, with its three branches, fig. 2; these three branches have cap screws at their ends and cocks so fixed as to be opened when they are wanted. The valves, *b*, and, *c*, are reverse, one opens downward and one opens upward, with adjusting weights and levers, fig. 1, and fig. 3; the one that rises upwards prevents any overstrain happening to the boiler, and entirely secures it from inward strains; the valve that opens downward admits the atmosphere to pass into the boiler in case it is emptied or cooled too hastily, and perfectly secures the boiler from any accident happening that way.—In witness whereof, I, the said Richard Hare, have hereunto set my hand and seal, this seventh day of October, in the thirty-first year of the reign of our Sovereign Lord, George the Third, by the grace of God of Great Britain, France, and Ireland, King, Defender of the Faith, and so forth, and in the year of our Lord one thousand seven hundred and ninety-one.

“RICHARD HARE.”

had, before the date of the patent, practised the same thing; that the plaintiff's invention was therefore not new, and the patent consequently void: the question before the Court therefore was, respecting the similarity or dissimilarity of the two inventions of Mr. Hare and Mr. Wood. Mr. Hare's patent had been granted for "An apparatus whereby the essential oil of hops, which was before lost and dissipated in the air during the operation of boiling worts for beer, is preserved and applied to use, and the water for brewing at the same time heated to a sufficient degree of heat without any application of fire to the vessel containing it." Mr. Wood had previously, in 1785, obtained a patent for "Certain new discoveries in the application of steam, and also certain methods of using the water produced from condensed steam, and for applying the water from the coppers or boilers of steam-engines to other purposes than that of working the steam-engine, and also various methods of heating and applying water for the several purposes of breweries and distilleries, and for forwarding the process of brewing, and also certain methods of constructing and adapting coppers, boilers, tubes, and other hollow bodies, for the more effectual means of heating water and worts, and of rendering such coppers, boilers, tubes, and other hollow bodies, as are employed in the breweries and distilleries, steam and air-tight,"* in the specification of which he had said

* The specification was as follows:—

"Now know ye that in compliance with the said proviso, I, the said Sutton Thomas Wood, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed is hereinafter particularly described and ascertained; that is to say,—

"My first application of steam is the application of that steam which arises from the water liquor worts or other solutions which are or may be heated or boiled in all or any of such copper pans, kettles, or boilers, as are used and employed in breweries, distilleries, the various manufactures of sugar, soap, salt, and alum, and all other trades and manufactures whatever, to those engines commonly called or known by the name of steam or fire-engines, so that the same steam which arises either during the process of the trade or manufacture, or from water or liquor heated or boiled for the purposes of the same, may be rendered capable of working the steam-engine, and this I do by covering over the top of the copper pan or boiler, with copper, iron, brass, or any other materials, and by means of pipes, tubes, funnels, or other hollow bodies, or by any other means forming a communication with the steam-engine, to which copper pan or boiler I apply safety-valves and doors, either upon the same principle as those which are generally applied to the boilers of steam-engines or upon any other principle. But I have various ways of adapting and connecting

nothing respecting the preserving the essential oil of the hop. It was argued that Mr. Wood's patent could not be used when acting with brewers' worts without producing the same effect as the plaintiff's.

coppers or boilers used in trades and manufactures to the steam or fire-engine, in order that the steam arising therefrom may be applied upon the above-mentioned principle, and rendered capable of working the same. Many of which methods I have particularly specified and described in a specification, duly enrolled, agreeable to and by virtue of certain letters patent, granted to me, the said Sutton Thomas Wood, by his present Majesty King George the Third, bearing date the twentieth day of August, in the year of our Lord one thousand seven hundred and eighty-four, 'For certain new improvements on the steam-engine,' and other things therein contained, as in and by the said specification, relation being thereunto had, may more fully and at large appear; but let it be here observed, that it is not of any consequence in what shape, form, or method, the coppers, pans, or boilers, may be constructed or adapted, provided they are constructed or adapted upon the above-mentioned principle,—namely, that the same steam which arises from the water liquor worts or solutions, heated or boiled therein, may be rendered capable of working the steam-engine; nor is it of any signification from what copper, pan, or boiler the steam may arise, which is applied to the working of the steam-engine, provided it arises from any copper, pan, or boiler, which is either employed in the carrying on or in anywise applied to the use of any business, trade, or manufacture whatever; nothing, however, above-mentioned, is meant to extend to those coppers or boilers which are solely appropriated to and are applied to no other purpose than the working of the steam or fire-engine. My second application of steam is, the application of steam to the making and preparing of sugar, salt, and alum, which I do by placing one pan or vessel over another, and by fastening and connecting them together, either by means of doors or shutters, or by means of pipes, tubes, or funnels, or by any other means so as to cause the steam which arises from the lower pan or vessel to heat the sugar, salt, or alum, in the upper pan or vessel, and make or prepare the same; but in order to hinder any particles of the condensed steam from falling back into the lower pan or vessel and checking the evaporation, I sometimes make the top of the lower vessel, which may likewise serve for the bottom of the upper vessel, somewhat convex, spherical, or inclined, so as to cause the drops as they generate to roll down the same into grooves, furrows, or channels, which are made to surround the sides of the lower vessel, and to be conveyed away by means of holes or apertures, or cocks or valves placed therein for that purpose. But I have various ways of constructing pans and vessels upon the above principle, which, together with the nature of the grooved furrows or channels, and the valves and doors that may be applied upon this occasion, I have more particularly mentioned in the specification above referred to; wherein I describe my method of adapting and connecting those coppers, pans, or boilers, used in trades or manufactures, to the steam or fire-engine, where the nature of the trade or manufacture required a quick evaporation. My third application of steam is, the application of steam to the heating of stoves, either such stoves as are used for the drying of sugar or salt, or any other stoves, or

The plaintiff's witnesses described Mr. Hare's invention by a model which was produced in Court, consisting of a concave vessel, placed over the dome or head of the copper, in which concave vessel the liquor for the suc-

to the heating of all or any of such places and things as are in general heated by fire or by any other means, and the heat with steam may be used or applied, which I do by means of tubes, pipes, funnels, or other hollow bodies, made in such forms and shapes, and thrown in such directions as may be most suitable to the particular places and purposes for which they may be required. My fourth application of steam is, the application of steam to the heating of water or any liquor for the purposes of trades or manufactures, and this I do, either by causing water, liquors, worts, or other solutions, to be placed in vessels or other hollow bodies, which are made to surround or to be in contact with the copper, boiler, or vessel, in which water or liquor are heated or boiled, so as that the steam arising from such copper or boiler may heat the same, or by conveying the steam by means of pipes, tubes, or other hollow bodies, to the sides, top, bottom, or any other part of the vessel or hollow body in which the water or liquor is or may be contained, or by conveying the steam through the water or liquor by means of pipes or tubes as aforesaid, or by any other means, so as that the water or liquor required to be heated may be heated by steam. My fifth application of steam is, that of condensing such steam as arises from the copper, pans, or boilers, used in trades and manufactures, which I do, not only with but also without the power of the steam or fire-engine, either by means of cold water or other liquor, or by causing the steam to flow through cold pipes, funnels, or hollow bodies, or to come in contact with cold bodies, or by any other means, and of applying the hot water produced by such condensed steam to the various purposes of trades and manufactures. Let it be remembered also, that I apply the hot water which is produced by such steam as is or may be condensed by the power of the steam-engine, to the like purposes of trades and manufactures. My sixth application of steam is, the application of that steam which arises from sugars, unfermented worts, and all other unfermented solutions, which I not only apply to any of the purposes above-mentioned, and condense the same and use the liquor produced by such condensed steam, but I also cause such liquor as is or may be produced by the condensed steam of sugar, unfermented worts, and other unfermented solutions, to be put into a state of fermentation and to pass through the process of distillation, and the liquor produced thereby, I use either for the purposes of trades or manufactures, or for any other purpose to which it may be applied. My first improvement in the constructing and adapting of coppers or boilers, consists of the following principle, namely, in causing that heat which is generally absorbed and lost in the sides, back, and other parts of such fires or furnaces as are used in trades and manufactures, to be applied to the heating or boiling of water or liquor in other coppers or vessels than those which are generally used for the purposes of trades or manufactures, so that a greater quantity of water or liquor may be heated and boiled, either for the purposes of the trade or manufacture, or for any other purpose, and the process of the trade or manufacture may be thereby greatly forwarded without any extra consumption of fuel: and this I do by adapting, con-

ceeding mashes was to be contained. From the centre of the dome proceeded a large perpendicular trunk, provided with safety-valves on the top, from which trunk issued a horizontal tube having three smaller tubes suspended from it, whose extremities were immersed in the water in the concave vessel, so that all the steam which issued from the copper during the process of boiling worts, must necessarily (except in the event of its acquiring sufficient elasticity to open the safety-valves) pass into the liquor in the concave vessel, and could only rise into the atmosphere by bubbling up through that liquor. The steam thus combining with the water heated it very rapidly, and at the same time impregnated it strongly with the aroma of the hop.

Mr. Wood's invention was described by the witnesses to consist of a somewhat similar vessel to Mr. Hare's, but

neeting, or applying coppers, boilers, or vessels near to or in contact with such fires or furnaces, either on the sides, or back, or any part of the same, so as that the water or liquor contained in such coppers or vessels may be heated or boiled thereby; which method of constructing and adapting coppers or boilers I have more particularly described in the specification above mentioned and referred to, wherein I have explained my method of working the steam or fire-engine by means of such separate and detached coppers or boilers as are constructed and adapted upon the above-mentioned principle. My second improvement is in the adapting and connecting coppers, boilers, or vessels, constructed upon the above-mentioned principle, to the steam or fire-engine, so that the same fire necessarily used for the purposes of trades and manufactures, may at the same time be applied to the use of the steam or fire-engine. My third improvement is in causing the heat of the fire to be conveyed through the water or liquor, either by means of tubes, flues, or other hollow bodies, or by causing the fire or furnace to be in the middle, or in any other part within the body of the liquor, either in the form of a cone or pyramid, or any other form, and the water or liquor to surround the same; nor is it of any consequence in what form or shape the copper or boiler is made or constructed, or in what direction the pipes or tubes are placed, provided it is constructed upon the above principle of causing the fire or heat to be conveyed through the body of the water or liquor contained therein, instead of conveying the heat or fire entirely through the water or liquor in the copper, boiler, or vessel. I sometimes cause the bottom of the copper or boiler to be made in the shape of a cone or pyramid so as to cause a greater surface to be exposed to the heat of the fire, and the heating or boiling of the liquor contained therein to be forwarded thereby. In witness whereof, I, the said Sutton Thomas Wood, have hereunto set my hand and seal, the fifteenth day of March, in the twenty-fifth year of the reign of our Sovereign Lord George the Third, by the grace of God, of Great Britain, France, and Ireland, King, Defender of the Faith, and so forth, and in the year of our Lord one thousand seven hundred and eighty-five.

" SUTTON THOMAS WOOD.

Hare v. Harford & Taylor.

Hesse v. Stevenson

the difference was, that instead of the steam from his copper being mixed or brought into contact with the water in the concave vessel, it was carried off by a trunk, and applied to work a steam-engine during the boiling of the worts.

It was contended, on the part of the plaintiff, that this contrivance was totally different from his, inasmuch as it was not part of Mr. Wood's object to preserve the aroma or essential oil of the hop, which was the primary object of Mr. Hare's patent, and that even with respect to the heating the water, which was only performed in Mr. Wood's basin by the heat transmitted by the dome from the steam below it, was by no means accomplished in the same degree for the purpose of brewing.

A number of scientific persons were called on the part of the plaintiff, who stated their opinions as to the dissimilarity in principle and effect between the two inventions, and their reasons for conceiving that the objects of the plaintiff's patent could not be attained by Mr. Wood's apparatus.

On the part of the defendant, several scientific gentlemen were called and gave a contrary opinion; and Mr. Wood was also called on the part of the defendants to explain the nature and effect of his said invention, and that it was antecedent to Mr. Hare's. He stated that he had once entertained an idea of preserving the essential oil of the hop, but that the experiment had failed, and he did not think it worth repeating.

The jury, on the Lord Chief Justice's proceeding to sum up the evidence, appearing previously to have made up their opinions, and inclining through the whole course of the trial to the side of the defendant, pronounced their verdict without any hesitation for the defendant.

HESSE v. STEVENSON.

In the Court of Common Pleas, Michaelmas Term, 1803.

THIS was an action of covenant, tried before Lord Alvanley, Chief Justice, at the sittings after Easter Term, 1803. The declaration stated, that by deed-poll made by the defendant, 5th January, 1802, reciting, that certain letters patent had been granted by his Majesty to Mat-

thias Koops, dated the 17th of February, and the 18th of May, 1801, granting unto the said Koops, his executors, administrators, and assigns, the sole privilege of making paper from straw, hay, thistles, waste and refuse of hemp and flax, and different kinds of wood and bark, for the terms of fourteen years from the respective dates of the several letters patent;* also reciting, that Koops, by deed of assignment, dated the 26th of February, 1801, assigned certain shares of the said letters patent unto James Stephenson (the defendant), John Forbes, John Hunter, and William Tate, their executors, administrators, and assigns; and also reciting, that by an Act of Parliament, 41 Geo. 3, it was (amongst other things) enacted, that it should and might be lawful, to and for the said Koops, his executors, administrators, and assigns, or any or either of them, to transfer or assign the said letters patent respectively, or either of them, or any part or share, parts or shares thereof, or any benefit or advantage to arise therefrom, to any number of persons, not exceeding sixty; and also reciting, that the said Stevenson had agreed to sell and dispose of ten thousandth-parts or shares of and in the said letters patent to the plaintiff, in consideration of 1,800*l.*; and that the said James Stevenson assigned the same accordingly. The said James Stevenson did, by the said deed-poll, covenant, promise, and agree to and with the said Obadiah Legrew Hesse, his executors, administrators, and assigns, that he, the said James Stevenson, had good right, full power, and absolute and lawful authority, to assign and convey the said ten thousandth-parts or shares of and in the said letters patent; and then the plaintiff assigned, by way of breach, that the said James Stevenson had not good right, full power, or absolute or lawful authority, to assign and convey the said ten thousandth-parts or shares of and in the said letters patent and concern, according to the tenor and effect, intent and meaning, of the said deed-poll. The defendant, by his plea, craved oyer of the deed, and the covenant was stated in these words:—"That I, the said James Stevenson, have good right, full power, and absolute and lawful authority, to assign and convey the said ten thousandth-parts or shares of and in the said letters patent, and concern for making paper, &c.; and that I

* The specification in this case not being called in question, it is not introduced.

have not by any means, directly or indirectly, forfeited any right or authority I ever had, or might have had, over the said ten thousandth-parts or shares." And then the defendant pleaded, that he had good right, full power, and absolute and lawful authority, to assign and convey the said ten thousandth-parts or shares of and in the said letters patent and concern, according to the tenor, effect, intent and meaning of the said deed-poll, and of the covenant of the said James Stevenson, in that behalf made as aforesaid; upon which issue was joined. The jury found a verdict for the plaintiff for 1,800*l.*, subject to the opinion of the Court upon the following case:—

On the 30th of June, 1790, a commission of bankrupt issued against the said Koops, whereupon he was duly declared a bankrupt, and William Chapman and Thomas Hill were chosen assignees under the same; and from that time to this the said Koops hath not obtained his certificate. On the 17th of February, and the 18th of May, 1801, the said Koops obtained his Majesty's letters patent, as stated in the declaration. An Act of Parliament passed in the forty-first year of his present Majesty, recited in the deed and in the declaration, enabling the said Koops, his executors, administrators, and assigns, to assign the benefit of the said invention to any number of persons, not exceeding sixty, which Act is declared to be a public Act. On the 9th of September, 1801, the creditors of the said Koops executed a deed, which, after reciting the commission of bankrupt, and the several proceedings had under the same, and that the said Koops had, by advertisement in the "London Gazette," called a meeting of his creditors on the 12th of June, at which he proposed to pay all his creditors, who had proved their debts under the said commission, as much as then remained due to them, namely, five shillings in the pound within one month, and the remainder by three instalments, to be secured by the said Koops in such manner as his said assignees should think proper; but that such instalments of the foreign debts should be deposited in the hands of bankers, to be approved of by the said assignees, or paid into the Court of Chancery, to abide the event of an application to that Court, to be made within twelve months; and that the said Koops should indemnify the assignees against all the costs of such application, and the carrying the agreement after-men-

tioned into effect. And that thereupon, by a memorandum in writing, signed by the creditors of the said Koops, parties thereto, dated the said 12th of June, 1801, after reciting the said proposal, it was unanimously agreed by the said creditors, that the said proposal should be acceded to, and that the assignees should take such measures as might be necessary, to carry the same into effect; and that, on receipt of the first instalment, and such security being given for the payment of such respective debts, and depositing the first dividends of the foreign debts by the said Koops, the said several creditors did thereby undertake, so far as concerned themselves respectively, to execute good and sufficient releases in the law to the said Koops, and to give him such assistance in superseding the commission of bankrupt, as the said assignees should think proper; and further reciting, that the said Koops had, in pursuance of the aforesaid agreement, paid to the assignees, and such other of the said several creditors of the said Koops, parties thereto, as were resident in England, five shillings in the pound, upon the amount of their respective debts proved; and that on the day of the date of the said deed he paid into the banking-house of Baron Dimsdale and Co., to the account of the assignees, five shillings in the pound on the foreign debts; and also, that in pursuance thereof, the said Koops had given to the assignees a warrant of attorney for 20,000*l.*, to secure the remaining fifteen shillings in the pound. It was witnessed, that in consideration of the premises, the said Koops did undertake to pay to the said William Chapman and Thomas Hill, their executors, administrators, or assigns, the remaining fifteen shillings in the pound, in trust to pay themselves and the rest of the creditors, parties thereto, resident within the kingdom, the remaining fifteen shillings in the pound on their respective debts, by three instalments; and also to pay into the said banking-house in the name of the assignees, the remaining fifteen shillings in the pound upon the foreign debts; and in case of any surplus after payment of such debts, with all costs and expenses, to pay the same to the said Koops, his executors, administrators, or otherwise, as he or they should direct; and it was further witnessed, that in pursuance of the said agreement, and in consideration of the premises, they, the said Chapman and Hill, and the

several other creditors of the said Koops, parties thereto, did remise, release, and quit claim unto the said Koops, his heirs, executors, and administrators, all actions, suits, claims, and demands whatsoever, which they, or any, or either of them then had, or hath, or thereafter should or might have, challenge, claim, or demand, against the said Koops, his heirs, executors, administrators, or his or their estate or effects, on account of the debts to them, or any or either of them, due and owing from the said Koops, or of any other cause, matter, or thing whatsoever, save and except such actions, suits, claims, or demands, as might arise under or by virtue of the said deed, or of the said bond or judgment therein before recited; and further, that until default in payment of the instalments, the said Chapman and Hill should not take out execution on the said judgment, or proceed on the said bond, or otherwise molest the said Koops; and that upon payment of the said instalments, satisfaction should be acknowledged on the roll. Three of the creditors of the said Koops who had proved debts under his commission to the amount of about 600*l.*, never executed such deed. The said Koops paid the first instalment; but failing to pay the subsequent instalments, he lodged certain securities in the hands of the solicitor to the assignees, amounting to 1,690*l.* 11*s.* 6*d.*; the produce of which has since been received by the assignees, for the benefit of the creditors. He also lodged certain securities from Mr. Richard Twiss, in the same hands, to the amount of 3,500*l.*, which have since been proved by the said assignees, under a commission of bankrupt against the said Twiss, and the remainder of the said fifteen shillings in the pound not having been satisfied by the said Koops, the said Chapman and Hill entered up judgment against the said Koops on the warrant of attorney given by him on the 31st of March, 1802; and, on the 14th of October following, issued a *fi. fa.* thereon against the effects of the said Koops, and entered his dwelling-house, sold his furniture and other effects therein, amounting to a considerable sum of money; and also entered upon the premises where the manufactory under the said letters patent and Act of Parliament were carried on, and took possession of the same, and the effects therein under the said execution, and still continue to keep possession thereof.

The question was, whether the plaintiff was entitled to

recover? if so, the verdict to stand, if not, to be entered for the defendant.

Mr. Sergeant Onslow, for the defendant, was called upon by the Court, and argued to the following purport: First, upon the fair construction of the covenant, upon which the plaintiff has declared he cannot recover, unless he show, by way of breach, that the defendant has, by some act of his own, impeached that title which he conveyed to the plaintiff. Secondly, supposing the conveyance from the defendant to have been imperfect, still the assignees, by their conduct, have precluded themselves from disputing the title which the defendant conveyed to the plaintiff. Thirdly, the interest of Koops in the patent did not pass under the assignment of the commissioners of bankrupt. Lastly, the Act of Parliament stated in the case enabled the plaintiff to convey a good title. First, the words of the covenant are, that the defendant has good right, full power, and absolute and lawful authority to assign and convey, but they are followed by the qualification, that he has not done anything to forfeit his right. This qualification must be construed to control the whole covenant; nor will the arrangement of the words vary that construction. The doctrine laid down in *Browning v. Wright*, 2 Bos. and Pul. 13, is peculiarly applicable to the present case. In that case, Lord Eldon, after stating that covenants against the acts of all mankind are, in general, only required in conveyances of leasehold property, observes, "What would be the use of any of the other covenants, if the covenant relied on were general? It would be of little service to the grantor to insist that the warranty and the covenants for quiet enjoyment and further assurance were specially confined to himself and his heirs, if the grantee were at liberty to say, I cannot sue you on those covenants, but I have a cause of action arising on a general covenant, that supersedes them all." In support of his reasoning upon this point, his Lordship refers to the case of *Fielder v. Studley*, Finch 90. On the authority of this case I contend, that the defendant's covenant is confined to the impeachment of his title, by some act of his own. Both in deeds and wills, the Court is to look to the real intent of the parties.

Various cases were then cited in confirmation of this position.

Upon the second ground of defence, the *Learned Ser-*

geant then cited three cases to show, that unless the assignees disaffirm the title of an uncertificated bankrupt, he may dispose of the property acquired by him subsequent to the bankruptcy. Besides, the assignees have, by their own express acts, precluded themselves from disputing the title of the bankrupt; for, at a public meeting of the creditors, summoned by advertisement in the "Gazette," they entered into a composition with Koops, the terms of which have been complied with by him: and in consideration of which, the assignees, together with the creditors at that meeting, released to Koops all actions, suits, claims, and demands whatsoever. Shall the assignees, after reaping the benefit of the composition entered into with Koops, now, or at any future time, be at liberty to disaffirm his title to that property which he conveyed to the defendant, and the defendant to the plaintiff? The assignees have the power of compounding a debt if they think proper, and such composition will be good against the creditors, though the conduct of the assignees may be impeached before the Lord Chancellor. Supposing the deed of composition not to be legally binding upon the assignees, because some of the creditors did not assent, yet inasmuch as it has been carried into effect, it may operate in a court of equity, and may induce such Court to enjoin the assignees from doing any act by which the title of the bankrupt may be disaffirmed. If so, the defendant's title is not radically bad: for the defendant can never be evicted, and, consequently, can have no right to complain of a breach of covenant. Thirdly, the right to the invention being a mere metaphysical right, did not pass to the assignees under the commission. It was nothing but a right to exercise a particular invention. Now, the case of *Chippendale v. Tomlinson* clearly shows, that the assignees have no power to let out either the person or the talents of the bankrupt. Could not Koops have applied to monied men, and offered to exercise this invention as their servant; and could the assignees in such case have claimed the fruits of his ingenuity?

Mr. Justice Chambre.—The right to the patent is made assignable, why then may it not be assigned under a commission of bankrupt?

Sergeant Onslow.—The right of assignment contemplated in the grant was a voluntary assignment, whereas the assignment under a commission is compulsory.

Lastly, the assignment from Koops to the defendant, and consequently that of the defendant to the plaintiff, is authorized by the Act of Parliament stated in the case. The object of that Act was to enable Koops to convey, and, therefore, necessarily establishes all conveyances made by him. In the deed, by which Koops previously to the passing of the Act of Parliament assigned to the defendant, it is true that no mention was made of the bankruptcy of Koops; but the Act of Parliament, subsequent to that deed, having enabled the assigns of Koops to assign over to others, is a legislative acknowledgment of the defendant's right to execute a good conveyance to such persons as he should think fit.

Mr. Sergeant Bayley for the plaintiff.—The cases cited respecting covenants do not apply to this case, in which the general covenant relied upon is of a different nature from the particular covenants in the same deed, and is independent of them. In the case of *Browning v. Wright*, the covenants were preceded by these introductory words, "for and notwithstanding anything by him done to the contrary," which words were applicable as well to the covenant in dispute as to that which preceded it. The Learned Sergeant then proceeded to combat the remaining cases cited on the other side, and remarked, that in order to bring this case within the authority of those decisions, it must be made out, that the covenant now sued upon is inconsistent with the other covenants in the same deed. If, in fact, that deed had contained any other covenants inconsistent with the general covenant for title, the defendant would have set them out upon oyer, and have thus brought them before the Court. The latter part of the covenant set out, by which the defendant declares that he has not forfeited his right, may, perhaps, have been unnecessary, after the former general stipulation, that he had good right to convey; but though unnecessary, it is not contradictory to the former part. It has also been urged, upon the authority of *La Roche v. Wakeman*, that Koops had good title to convey, notwithstanding his bankruptcy; but that case only proves, that an uncertificated bankrupt has a good title against a wrong doer. In the case of *Evans v. Martin*, it was determined, that the assignees of a bankrupt may maintain an action for the value of goods acquired by an uncertificated bankrupt subsequent to his bankruptcy,

and sold by him, without naming themselves as assignees; Lord Mansfield observing, that the property of the goods was in the assignees, and that the sale by the bankrupt was a contract by him as their agent and on their account. So, in this case, though the assignees suffered Koops to carry on the patent, they might have taken it to themselves. Other cases were then cited, which proceeded upon the same principle as that of *La Roche v. Wakeman*, admitting the right of the assignees to interfere, but allowing the bankrupt himself to maintain an action until such interference should take place. If the instrument executed in this case by the assignees is to be considered as an assignment to Koops, it was an assignment upon terms which have not been complied with; for he contracted to pay the remainder of the debts, which he had not done. With respect to the objection, that the patent did not pass under the assignment, it is sufficient to observe, that all property, both real and personal, and choses in action belonging to a bankrupt, pass to the assignees. If the patent in question be devisable and assignable by the bankrupt, as it undoubtedly is, why may it not pass under the assignment executed by the commissioners to the assignees? Lastly, the Act of Parliament stated in the case gave no authority to the defendant to assign, which he had not before the passing of that Act, except as to the number of persons to whom he was permitted to assign. That Act was passed *diverso intuitu*; the legislature not having in contemplation the question, whether the property belonged to the assignees or not, but only regarding the expediency of allowing the patent right to be divided into a greater number of shares. This appears from the preamble, which recites the very difficulty which the legislature intended to obviate.

After the argument, the Court took some time to consider the case, and on the last day of the term the opinion of the Court was delivered by

Lord Alvanley, Chief Justice.—The question, in this case, arises upon a deed-poll, dated January 5, 1802, by which the defendant gives and grants to the plaintiff a share in his patent right. The deed is not stated at length upon the record, but we consider the case as if the whole deed were now before us, because the covenants contained in that deed, which are not set forth, are not at

variance with the covenant upon which the breach is assigned. The covenant upon which the question immediately arises is, that the defendant had good right, full power, and absolute and lawful authority to convey; and that he had not by any means, directly or indirectly, forfeited any right or authority he ever had, or might have had, over the property in question. This action arises upon the first part of the covenant, and the breach assigned is, that the defendant had not good right, full power, and absolute and lawful authority to convey. We are called upon to decide upon the true construction of this covenant. It has been contended, upon the authority chiefly of *Browning v. Wright*, that this does not amount to an absolute covenant for good title, but must be confined to the acts of the party himself. We have looked with great attention into that case; and after the very able manner in which the principles which govern the construction of covenants were then laid down by Lord Eldon and the other judges, it is unnecessary for me to enter at any length into the subject. Almost every case which bears upon the point is there cited; and, indeed, I find more of them there stated than I expected, for I did not think that the courts had formerly been so liberal in the construction of covenants, as it appears that they have been. I have examined all these cases, but I do not think it necessary to state them; for we not only agree with the principles laid down in *Browning v. Wright*, but we think that the case might have been decided as it was upon the very words of the covenant, which was restrained to the acts of the party himself by the introductory words, "notwithstanding anything by him done to the contrary;" and so Lord Eldon thought, though he adds, that if such were not the construction of the covenant itself, yet being coupled with the other covenant which was so restrained, it must be construed in the same manner. The defendant having covenanted, that "for and notwithstanding any thing by him done to the contrary," he was seised in fee, and that he had good right to convey, the latter part of the covenant, coupled as it was with the former part by the words, "and that," must necessarily be overridden by the introductory words, "for and notwithstanding anything by him done to the contrary;" and this appears to have been the opinion of the whole Court. But taking the latter covenant not to

be restrained in terms, they proceeded to consider the rules by which covenants of this description are to be construed. From all the cases upon this subject, it appears to be determined, that however general the words of a covenant may be if standing alone, yet if from other covenants in the same deed it is plainly and irresistibly to be inferred that the party could not have intended to use the words in the general sense which they import, the Court will limit the operation of the general words. The question, therefore, always has been, whether such an irresistible inference does arise? For if such an inference does arise from concomitant covenants, they will control the general words of an independent covenant in the same deed. In Lord Eldon's judgment, one case is mentioned which I think deserves some notice, because his Lordship seemed to suppose that the judgment of the Court proceeded upon the mere legal construction of the deed, without regard to any circumstances *dehors* the deed. The case to which I allude is *Fielder v. Studley*, which appears to me to be an extremely strong case in favour of the present plaintiff, if the general covenant, which was restrained by the other special covenants, be considered as an independent covenant. Lord Eldon observes, that the Court must have proceeded "on the ground of the intent of the parties appearing on the instrument; since that intent, and the consequent legal effect of the instrument, could only be collected from the instrument itself, and not from anything *dehors*." It must be remembered, however, that the application there was made to the Court of Chancery upon equitable as well as legal grounds; for, on looking into the case, I find that the defendant's father, in 1657, had sold lands belonging to the Dean and Chapter of Sarum, which had been dissolved during the Commonwealth. It was not very likely, therefore, that a party selling under these circumstances would covenant for anything more than his own acts. It appearing that the general covenant was manifestly contrary to the true intent of the parties, application was made to the Court of Chancery to correct the mistake, in the same manner as applications are made to that Court to correct mistakes in marriage articles where clauses are inserted contrary to the intent of the parties. The decision, therefore, did not merely proceed upon the construction of a legal instrument, but the cir-

circumstances entitled the party to have the covenant rectified, as having gone beyond the intention of the parties. But supposing that case to have been decided as a question at law, the question here is, whether the principle I have here stated, applied to this case, requires the Court to restrain the general words of the covenant sued upon? If the inference be irresistible, that the parties could not intend to make a general covenant, we are bound to give the defendant the benefit of that inference. The property assigned is a share in a patent right; and it could not be unknown to the defendant, that Koops, the original proprietor, had been a bankrupt, though possibly the plaintiff might be ignorant of that circumstance. I have looked anxiously through all the concomitant covenants, in order to ascertain whether they afforded any inference of an intention to restrain the covenant in question, but I find none. The deed, after reciting the manner in which the property came to Koops ten years before, and the assignment to Stevenson, contains a conveyance of his interest to the plaintiff; and then follows the warranty in question, which, instead of being framed in the usual and almost daily words, where parties intend to be bound by their own acts only, viz., "for and notwithstanding any act by him done to the contrary," omits them altogether; besides which, the defendant covenants that the assignee shall enjoy the property assigned in as ample a manner as the assignor. The omission of these words is almost of itself decisive. The attention of the purchaser is not called by any words to the intent of the vendor to confine his covenant to his own acts. The covenant that the defendant has paid all the calls is certainly personal: but the covenant for title is general: and the Court ought not to indulge parties in leaving out words which are ordinarily introduced, and by which the real meaning of the parties might be plainly understood. The argument on the part of the defendant arises from the latter part of the covenant in question. If the party meant to covenant for an absolute right to convey, why, it is asked, does he covenant that he has not forfeited such right? To this it may be answered, that the latter stipulation, though unnecessary, is not inconsistent with the former. The rule of construction adopted in *Browning v. Wright* has never been carried to such a length as to decide, that because some clauses are intro-

duced into a deed which do not add to the security provided by other clauses, the security so provided is to be restrained. We are, therefore, of opinion, that the covenant for absolute right to convey is not restrained by the other parts of the deed. It is contended, however, that the defendant has conveyed a good title to the plaintiff; and, first, it is said, that admitting the interest in the patent right to have passed under the assignment of the commissioners, yet the assignees have reconveyed to the bankrupt the whole of their interest therein by the deed of the 9th September, 1801. It must be remembered, however, that nothing short of an actual conveyance by the assignees can sustain that argument, and that a mere release will not be sufficient; and it was, therefore, insisted, that the deed amounted to a conveyance. But I have no hesitation in saying, that the deed alluded to was neither intended to convey, nor did it operate in law as a conveyance. By that deed, the two persons who were the assignees of Koops, together with his several other creditors parties thereto, in consideration of his having agreed to pay them 15s. in the pound, and to secure the debts of the foreign creditors after the same rate, did remise, release, and quit claim to him, all actions, suits, claims, and demands whatsoever: but it is to be observed, that the persons who were assignees did not convey as such. Indeed, if they acted as assignees, why was it necessary that the other creditors should join? And they do not pretend to bind the other creditors who were not parties to the deed. This is the deed which is said to convey to Koops, as a purchaser, all the interest of the assignees, and to make him a new man. But the words are not sufficient for that purpose; it could not have been the intention of the parties. The assignees do not affect to convey for any persons not parties to the deed; and the instalments have not been paid according to the agreement. We are, therefore, clearly of opinion, that it is impossible to construe this deed to be such a conveyance as has been contended for on the part of the defendant. With respect to the supposed power of the assignees to make such a compromise with the bankrupt as that stated in the case, and the attempt to show that it amounts to a sale of the property to him; it was not competent to assignees to make such compromise, unless the other creditors had consented; nor could the transac-

tion be deemed a sale under the usual powers. Next, it is contended, that the nature of the property in this patent was such that it did not pass under the assignment; and several cases were cited in support of this proposition. It is said, that although by the assignment every right and interest, and every right of action, as well as right of possession and possibility of interest, is taken out of the bankrupt, and vested in the assignees, yet that the fruits of a man's own invention do not pass. It is true that the schemes which a man may have in his own head before he obtains his certificate, or the fruits which he may make of such schemes, do not pass, nor could the assignees require him to assign them over, provided he does not carry them into effect until after he has obtained his certificate. But if he avail himself of his knowledge and skill, and thereby acquire a beneficial interest, which may be the subject of assignment, I cannot frame to myself an argument why that interest should not pass in the same manner as any other property acquired by his personal industry. Can there be any doubt, that if a bankrupt acquire a large sum of money, and lay it out in land, that the assignees may claim it? They cannot, indeed, take the profits of his daily labour. He must live. But if he accumulate any large sum, it cannot be denied that the assignees are at liberty to demand it; though, until they do so, it does not lie in the mouth of strangers to defeat an action at his suit in respect of such property by setting up his bankruptcy. We are, therefore, clearly of opinion, that the interest in the letters patent was an interest of such a nature as to be the subject of assignment by the commissioners. Lastly, it is contended, that the Act of Parliament stated in the case vested a legal interest in Koops, for that he must be taken against all the world to have that interest which the Act of Parliament recites to be vested in him, that Act being a public Act. But though the Act be public, it is of a private nature: the only object of the proviso for making it a public Act is, that it may be judicially taken notice of, instead of being specially pleaded, and to save the expense of proving an attested copy. But it never has been held, that an Act of a private nature derives any additional weight or authority from such a proviso; it only affects Koops, and those claiming under him, and authorizes him to do certain acts which by the letters patent he

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could not have done. It recites the letters patent, containing a clause which prevents him from assigning to more than five persons, and then enables him to assign to any number of persons not exceeding sixty. It is not possible, then, to consider this Act as giving any title to Koops, which he had not at the time when it passed. Such has been the construction which has always been put upon Acts of Parliament of this nature. We are, therefore, of opinion, that no aid is to be derived to the defendant from that Act of Parliament.

Judgment for the plaintiff.

HUDDART v. GRIMSHAW.

In the Court of King's Bench, December 23, 1803.

THIS was an action brought by Captain Huddart against the defendant, to recover damages for the violation of a patent, dated 25th April, 1793, for a new mode or art of making great cables, and other cordage, so as to attain a greater degree of strength therein, by a more equal distribution of the strain upon the yarns.*

* The specification was in the following words:—

"To all to whom these presents shall come, &c., &c.—I, Joseph Huddart, of Islington, in the county of Middlesex, Esquire, send greeting.—Whereas I, the said Joseph Huddart, did by my petition humbly represent unto his present Most Excellent Majesty King George the Third, that I had by great study and application found out and invented a new manufacture (to wit), 'A new mode or art of making great cables and other cordage, so as to attain a greater degree of strength therein by a more equal distribution of the strain upon the yarns.' That I was the first and true inventor thereof, and that the same had not theretofore been used or put in practice, and that the said invention will be of great public utility. I therefore most humbly prayed that his said Majesty would be graciously pleased to grant unto me, my executors, administrators, and assigns, His Royal letters patent, for the sole use and benefit of my said discovery and invention, within that part of his said Majesty's kingdom of Great Britain called England, his dominion of Wales, town of Berwick-upon-Tweed, and in his colonies and plantations abroad, for the term of fourteen years, pursuant to the statute in that case made and provided; and his said Majesty being willing to give encouragement to all arts and inventions which might be for the public good, was graciously pleased to condescend to my request, and, therefore, by his Royal letters patent, bearing date at Westminster, the 25th day of April, in the year of our Lord 1793, of his especial grace, certain knowledge, and mere motion, did for himself and his successors, give and

Mr. Erskine, for the plaintiff, after stating to the jury that this cause would require a great deal of their attention, it being important as it relates to the public, and

grant unto me, the said Joseph Huddart, my executors, administrators, and assigns, his especial license, full power, sole privilege, and authority, that I, the said Joseph Huddart, my executors, administrators, and assigns, and every of us, by myself and themselves, or by my and their deputy or deputies, servants, or agents, or such others, as I, the said Joseph Huddart, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time, and at all times thereafter, during the term of years therein expressed, should and lawfully might use, exercise, and vend, my said invention, within that part of his Majesty's said kingdom of Great Britain called England, his dominion of Wales, and town of Berwick-upon-Tweed, and also, in all his colonies and plantations abroad, in such manner as to me, the said Joseph Huddart, my executors, administrators, and assigns, or any of us, should in my or their discretion seem meet; and that I, the said Joseph Huddart, my executors, administrators, and assigns, should and lawfully might have and enjoy the whole profit, benefit, commodity, and advantage, from time to time coming, growing, accruing, and arising, by reason of the said invention, for and during the terms of years therein mentioned, to have, hold, exercise, and enjoy, the said license, powers, privileges, and advantages, thereintofore granted, or mentioned to be granted, unto me, the said Joseph Huddart, my executors, administrators, and assigns, for and during and unto the full end and term of fourteen years, from the date of the said letters patent, next and immediately ensuing, and fully to be complete and ended, according to the statute in such case made and provided; in which said letters patent is contained a proviso, that if I, the said Joseph Huddart, should not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing, under my hand and seal, and cause the same to be enrolled in his said Majesty's High Court of Chancery, within one calendar month next, and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever, thereby granted, should utterly cease, determine, and become void, anything herein-before contained to the contrary thereof, in any wise notwithstanding, as in and by the said letters patent, relation being thereunto had, may more fully and at large appear.—Now know ye that I, the said Joseph Huddart, in compliance with the said proviso, do hereby describe and ascertain the nature of my said invention, and declare that the plan thereof hereto annexed, is composed of the following particulars (that is to say):—

"No. I. a spindle and bobbin, on which *a*, *b*, represents the spindle; *c*, *d*, the bobbin (with the yarns upon it, from *c*, to *d*); *e*, *f*, the axis which carries the spindle, *g*; *g*, *h*, an arm of wood fixed upon the square part of the spindle, and which goes round with it, part of which, *g*, *h*, may be of wire, with a hole at *h*, or a friction-wheel or pulley to receive the rope-yarn, which from thence is to be led through a hole in the end of the spindle at *b*. At *x*, a spring is fixed to the wooden arm by means of a screw and nails, or otherwise the screw works in the square part of the spindle, by means of which the spring may be made

most important indeed as it respects the ingenious individual who is the plaintiff in the cause, said,—This is not the discovery of a mechanic art; it is the method of

stronger or weaker, as requisite, the other end of which resting upon the globular part of the head of the bobbin, formed for that purpose, to regulate the tension of the yarn in drawing it from the bobbin whilst the spindle is turning in registering the strand. This spindle and bobbin is carried by the axis, *z*, *r*; the smaller end of the spindle, *a*, is square or triangular, and fits into the end of the axis at *z*, which axis is carried by a band going round the pulley (or pinion, if carried by a wheel with teeth, at *e*, *f*). The spindle and bobbin is easily shifted by lifting the end at *a*, out of the notch which it runs in, and drawing it out of the axis at *z*).

"No. II. another spindle and bobbin, in which *i*, *l*, *m*, *x*, *o*, *k*, represent a spindle continued into a square frame of iron, to revolve upon the pivots, *i*, *k*. The pivot at *i*, is perforated, in order to receive the rope-yarn from the bobbin which runs at a right angle to *i*, *k*, upon the spindle or axis, *r*, *q*; this bobbin is adjusted by a screw in the same manner as the first mentioned, or by two springs and screws, *x*, and *y*, one at the head, *r*, and the other at *q*, having two globular or nearly parallel parts at each end of the bobbin, for that purpose. The bobbin is soon shifted, by taking out the spindle, *r*, *q*, which is done by shoving it towards *r*, against the spring, *p*, *r*, till the end at *q*, in the square frame, is relieved; the spring, *p*, *r*, is to keep the spindle in its place; while the whole is carried round upon the pivots, *i*, *k*, by tooth and pinion or band, round the pulley, *a*, *s*, and at the same time supplying the yarn as before-mentioned, whilst the strand is registering.

"No. III. the machine which carries the spindle in horizontal ranges, and ought to be constructed according to the size of the largest ropes the manufacturer has occasion to make. Fig. 1, represents an elevation or section, whose plane is perpendicular to the axis and spindles, and the circles projected there on the large end of the bobbins, which are placed in horizontal ranges, each range supported upon the horizontal railing, and rise higher front towards the back part of the machine.

"No. III., Fig. 2, represents a profile, or a section, parallel to the axis of the spindles, and perpendicular to the horizon. No. III., fig. 3, the horizontal plane, which is also parallel to the axis of the spindles. In these three figures the same letters are used in each to denote the same part of the machinery; the number of spindles to be employed in this machine may be increased or diminished as occasion may require. The base of this machine consists of three pieces of timber, to lay upon the ground or near it, marked *a*, in fig. 1, and *a*, *a*, in figures 2 and 3; and at right angles to these are bolted two pieces, *b*, *b*, over the ends of the former; and a third may be added midway between, if necessary, to secure the whole, and must extend over the piece, *a*, *a*, on one side a convenient length to receive the pillars which support the long axis, fig. 3; which long axis, when turned by the handle, *c*, gives motion to all the spindles by the communication of a band to every range of spindles. In this machine there is allowed one foot of room for the diameter of the bobbin, and eighteen inches for the length of the spindle marked *y*; the spindles are carried by an axis marked *x* (as represented in spindle and bobbin, No. I.), and will, therefore, require three rails or

doing a thing which is to be carried into effect by machinery. And I cannot help bringing to his Lordship's recollection a very celebrated cause, which has

ranges of boards for each range of spindles, two of which support the pivots of the axis, *x*, and are marked *b*, *d*, No. III., fig. 1, and the third the front end of the spindle, in which there is a notch to drop the spindle into when the bobbin is shifted. Those are supported by the pillars, *e*, *e*, No. III., fig. 2; each range is fixed higher than the one before it; and it is also necessary to have a rail, *r*, for each range to lead the yarns clear of the foremost bobbins, which rail has a notch cut in it for each yarn to lead through upon the long axes, which is carried by the handle; *o*, are as many pulleys as there are ranges of spindles. In this drawing they are seven in number, and are marked *x*; the band going round these pulleys passes over the friction wheel, *u*, and thence round every pulley in that particular range, and over the friction wheel, *h*, and returns again into itself at the pulley, *x*, which, with the pulleys upon that range, must be equal in diameter, in order that one turn of the handle may give one turn to each spindle, and the same must be attended to in every range. The machinery for the spindle and bobbin, No. II., differs from that of No. I. in this respect only, that it is necessary to allow more room in the breadth for each bobbin, and consequently there will be fewer bobbins in each range when the breadth of the machine is the same. The machine will require but two rails to support the spindles, as they require no separate axis to carry them, the pulley being fast to the spindles, and always remaining in the machine, for the small iron rod only, which the bobbin runs upon, is taken out to shift the bobbin. In these machines there is a space left between the first and second, the third and fifth, and the sixth and seventh ranges of spindles, as marked *u*, in No. III., figures 2 and 3; and to allow a person to pass between, and shift or replace any particular bobbin that may have the yarn expended. And it is also to be observed, that these machines may have the spindles carried by wheels and pinions, instead of bands and pulleys, if required. I have represented, in No. III., fig. 2, the yarn from each of the seven ranges of spindles, passing over the rail, *r*, and from thence to the posts marked *l*, in which there are as many rails as ranges of spindles. There are cleats upon each post to support the rails, and each rail has as many notches in the upper side as there are spindles in a range. I have represented one of those rails, No. III., fig. 3, and the yarns leading from the front range of spindles. This railing may be either in the middle of the ground, or carried along one side, as in No. III., fig. 3, the distance between them such as may be thought necessary for supporting the yarns and keeping them separate the whole length of the strand, and may be made of various constructions. No. — (a), rails, will be intelligible, upon inspection of the drawing, where *a*, *b*, represent the rails. The register is calculated to form the strand into shells of yarns, and, therefore, they must be made of different sizes, and with more or fewer holes according to the intended size of the cable or rope. In the drawing, No. IV., marked register, the front, *a*, *a*, *a*, *b*, made of wood, is perforated with circular ranges of holes, which may be about two inches asunder, through which all the yarns in the strand are to pass, and this brings them into a proper form to go through a smaller and similar plate, *b*, *b*, having in it as many holes, *a*, *a*, *a*, *b*, *b*. This

occupied more attention than any other upon the subject of patents in the courts of Westminster Hall; I mean the famous case of *Boulton v. Bull*, in which the

plate may be made of wood or metal, the plane of the front of which must be parallel to *A, a, B, b*, and fastened to it by three or four bars of wood or iron; the holes in *D, D*, must be so near together at the side next *F*, as only just to free them clear of each other, and it may be made of wood bored diagonally, to extend further asunder towards *A, a, B, b*, except the centre hole, which must be perpendicular to the centre hole in *A, a, B, b*; this disposition of the yarns is necessary previous to their passing through the cylindrical tube of metal in which the strand is compressed and formed. This tube compressing the yarns and confining the outer shell to its proper figure, which outer shell compressed the next, and so on to the centre, there cannot be any crossing of yarns or change in situation, but the whole strand formed close and compact, and no more yarn required from the bobbins than is necessary, according to the situation of the shells or their distance from the centre. The tube is made in two parts, longitudinally, of thin steel of a spring temper, marked *z* (No. IV.), and is secured to *D, D*, by a plate of metal, *o, g*, and three or four bars or rods with screws to adjust it and give it the best position. The cylinder has a projection at the fore end, which is larger than a hole in *o, g*, to receive the tube, and therefore brings it forward in registering the strand, and the plate, *o, g*, is also made in two parts, by which means both the plate and the tube may be taken from the strand, and applied to it again, or repaired if it should happen to be broken during the operation; each part of the tube, marked *F*, is more than a semicircle of the size of the strand, which is to be registered, in order that the thin edges may overlay each other, and being a spring temper is compressible by a wire or thong, marked No. VI., *z, z, f, f*, in which *z, z*, represent the jaws to which the thong or wire is made fast, and move between the cheeks upon the bolt at *H*, which may be set further asunder by shifting the bolt at *H*, so as to have the handle, *f, f*, at a proper distance, for the man who registers to lay hold of, and by this lever compressing the tube by a constant force, the tube will expand or contract, in case the general run of the yarns be thicker or smaller in different parts of the strand, and will form, as was said before, a compact strand, and free from hollows, which might otherwise be occasioned by crossing of yarns over each other. No. V., register gauge. It is as follows:—*A, B*, is the stock or thick part of the gauge, in which there is a groove or slit for the tongue and index, *D, d*, to move in; upon the centre, *i*, on the side, *d*, is fixed to the stock, *A, B*, a semicircle, upon which are two graduated arcs of circles, concentric with *i*, one of which is marked *L* (laying), the other, *R* (registering), those two arcs are graduated, answering to the mean stretching of the yarns, founded upon experiments. To use it, the stock of the gauge must be applied to the side of the strand parallel to the axis, and the tongue to lay over parallel to that part of the shell of outside yarns where it touches the strand, which shows the angle made by the outside shells of yarns, and a line on the surface parallel to the centre of the strand, and the corresponding graduation must be used in registering and when the strands are laid into a rope.

“ Having described the various parts of the machinery and implements

Court of Common Pleas were divided in opinion; but upon the cause coming by writ of error before the superior tribunal, in which my Lord now presides, it was

to be used, I shall now enter upon the operation. The bobbins being all wound full of yarn, which may be done by a machine to fix them upon, with a handle to it, and put upon the spindles, and the ends of the yarns led through the holes, *h*, and ends of the spindles, *a*, fig. 1, the end of the spindle, *a*, is put into the end, *e*, of the axis (which always remains ready for use) and the fore end of the spindle, *a*, dropped into the notch in the rail; then draw off some yarn, and regulate the springs, if wanted, till an equal force and sufficiently tight draw off the yarns, leaving the yarn from the bobbin long enough to reach the fore parts of the machine, where it is to be knotted to the yarns of the strand; having fixed as many bobbins as intended yarns in the strand, or in the three strands, if the machine will carry so many, (for though I shall only speak of registering one strand, yet the three strands may be registered all at the same time,) the bands (if bands are used and not wheel work) should also be made tight to carry the axis, which is done by a screw, *d*, adjusting the friction wheel, *h*; the strand is then to be run and laid upon the rails or supporters, each yarn in its proper notch, and, for expedition, one of the rails may be used for separating the yarns and laying them in the rails, dropping a whole range into the notches at once, which being done, the yarns of the strand are to be smoothed, knotted to the respective yarns from the bobbins, and the machine is ready for use. The yarns at the other end of the strand are then to be put through the register, taking off the tube and plate, if not already done. It is best to take the centre yarn from the railing, or middle yarn of the middle rail, which put through the centre hole of the register, and then select the yarns from the railing to lead clear of each other, when stretched to the holes in the register; the holes in the register being completed with yarns, let the ends be collected together upon a stretch and made fast to the hook which turns the strand in registering, and slide the register back near to the hook, if not so before; then put on the tube and plate and adjust it by the screws when upon the strand. Lastly, put round the tube the thong or wire and make it fast to the jaws of the heaver and heave it right. If the handles of the heaver are too near or too far from each other for the convenience of the man that registers the strand, alter the bolt till it is right, and all is ready to begin to register the strand, the foreman having determined how hard he will lay the rope. Suppose No. 10, in the register gauge, fix the index, *d*, of the gauge to 10 on the arc, *a*, and taking a few turns with the hook (keeping the heaver tight to compress the tube), try the gauge, and regulate the registering, according as it is found to vary, till the outside yarns correspond with the tongue, *b*, of the gauge, and make the required angle, and which may be repeated as often as it is thought necessary through the registering of the strand. If the three strands are registering together, it must be a triple register in one frame, and there is no necessity to try but one strand with the gauge if the yarns are of the same kind. The three strands (or four if a four-strand rope) being registered, must be made fast to the hooks in the common way, equally tight for laying, the index of the gauge being altered from ten on the arc, *a*, to ten on the arc, *l*, or whatever the number was intended to be, the corresponding number

given in favour of the patentee. I never read anything more clear, more distinct, or more perfectly applicable to the matter now in hand, than that part of the judgment

must be used; then turning the hooks of the strand till the outside shell of the yarn correspond with the tongue of the guage, and begin to lay the rope. It is to be understood that in registering, a sufficient weight is laid upon the hook to prevent its being drawn towards the machine.— In witness whereof, I, the said Joseph Huddart, have hereunto set my hand and seal, this twenty-fourth day of May, in the thirty-third year of the reign of his said Most Excellent Majesty King George the Third, by the Grace of God, of Great Britain, France, and Ireland, King, Defender of the Faith, &c., and in the year of our Lord one thousand seven hundred and ninety-three.

“JOSEPH HUDDART.”

“Enrolled May 24, 1793.”

Captain Huddart's specification, so far as it enables a mechanical man to understand and carry out the invention, is wholly unobjectionable, and a person well acquainted with the manufacture of ropes and cables could not have failed clearly to perceive the new principle introduced by Captain Huddart, in constructing a strand for a rope or cable. Yet, notwithstanding this state of the specification, one cannot read the address of the Learned Judge to the jury, without feeling that his Lordship entertained the opinion that the patent claimed each of the five mechanical arrangements, into which the specification divides the description of the invention, without reference to the peculiar new manufacture of ropes, brought about by the invention; his Lordship in no way called the attention of the jury to the fact that Mr. Huddart's invention was the causing the yarns, of which a strand was to be composed, to be controlled in several concentric rings, by suitable apparatus, and that the strand when made should consist of several concentric rings of yarns, the yarns of one ring never entering into or mixing with any other of the rings of yarns, by which the yarns of the succeeding rings, proceeding from the centre of a strand outwards, were longer and longer, as was very accurately described in Mr. Renie's evidence. Had his Lordship been pressed on behalf of the defendant, there can be no doubt that he would have taken the opinion of the jury whether the arrangement of the mechanical parts, No. 1, was not the same as the reels and apparatus described in Mr. Belfour's specification. His Lordship evidently thought them the same, and he also appears to have considered that Captain Huddart claimed the bobbins and springs for obtaining regularity of tension, independent of the other four arrangements of mechanical parts which he describes as being used in carrying out his invention. Captain Huddart's patent may therefore be said to have had a very narrow escape of being destroyed by a nice legal construction of the specification; I have therefore thought it desirable to call the reader's attention to the form of the specification which divides the subject-matter under description into five parts, and the Learned Judge evidently read the specification as if each of those parts was separately claimed as new, and that the previous use of No. 1, was fatal to the patent; his Lordship, however, left the question to the jury, whether the invention was new, not whether the five parts were separately new. In a late case, *Campbell v. Brand*, (hereafter given,) the specification was divided into eight parts, in a similar manner to that of

of Lord Chief Justice Eyre, given in the Court of Common Pleas, which I will read to you, because it overlays in distinctness everything that I can say upon this most material part of the case. "The effect," says that Noble Judge, "produced by Mr. David Hartley's invention for securing buildings from fire, is no substance or composition of things, it is a mere negative quality, the absence of fire: this effect is produced by a new method of disposing iron plates in buildings. In the nature of things, the patent could not be for the effect produced. I think it could not be for the making of plates of iron, which, when disposed in a particular

Captain Huddart's, the beneficial manufacture was, as in Captain Huddart's case, only to be brought about by the use of the eight parts, according to the directions of the specification. It being shown that one of the eight parts was old, the Court held that the patent was bad, the patent being for the eight parts, separately as well as combined. It is of the greatest importance, therefore, to patentees never to divide their description into several heads, unless it is intended to claim each separate head of the description. Had Captain Huddart stated his invention to consist, as the fact was, 'in so making the strands of ropes or cables, that the yarns of which any strand may be composed, shall be caused to lie in a succession of concentric rings, proceeding from the centre outwards, and the yarns of each succeeding ring longer and longer, in place of the yarns being all of the same length and all twisted together in one cluster or bundle as heretofore'—had he stated that to be his invention, and then gone on to have described, in the words of the specification, his means of accomplishing the invention, disclaiming the separate parts, the production of Mr. Belfour's previous specification could in no way have injured Captain Huddart's patent; Mr. Belfour never having contemplated making strands composed of concentric rings of yarns. Mr. Belfour, whether he used the 'top minor,' or the perforated plate, or the ring, only had the yarns of which a strand was to be composed in one ring, all the yarns being of equal lengths; he only proposed getting equal tension by delivering the yarns from bobbins equally pressed on by springs. Captain Huddart, on the contrary, proposed by his invention to obtain equal tension to the separate yarns by having them of different lengths, and so placed in the strands, that they were each in their own concentric rings of yarns, so that in cutting a strand in any number of parts, the same yarn would be found in the same ring, and at the same distance from the centre; this could never happen where the yarns were the same length and simply twisted together in a cluster: therefore, the specification ought to have circumscribed the invention to that and that only; and then the simple production of a portion of rope, purchased of a defendant, having strands so constructed, would have been sufficient evidence of infringement, without showing that the strands were made by the same machinery. There is probably not a more instructive case for the inventor and patentee than the above, and he will do well to consider it when taking his patent and enrolling his specification.

W. C.

manner, produced that effect, for these are things in common use ; but the invention consisting in the method of disposing those plates of iron so as to produce their effect, and that effect being a useful and meritorious one, the patent seems to have been very properly granted to him for his method of securing buildings from fire."

Lord Ellenborough.—I suppose it will not now be disputed, that a new combination of old materials, so as to produce a new effect, may be the subject of a patent ?

Mr. Erskine.—Exactly so, my Lord. I am not aware that it is necessary for me to consume a greater portion of your time, but I wish you to understand, when you hear the specification read of bobbins and spindles, that we are not assuming to be the inventors of bobbins and spindles, but the method is that which constitutes our specification. The legislature says, we will protect you, but you must tell us how you make them : we will give the inventor a monopoly, but he must register upon the records of the Court of Chancery what his invention is ; and though by that means others will have an opportunity of doing it, they must not till the expiration of the patent. The Learned Counsel then went on to state the invasion of the patent, and to call his evidence ; in which it was proved that the defendant suffered no person, not even his own clerk, to see his manufactory ; but from the construction of the rope produced, it could only be made upon Huddart's plan. The Learned Gentleman then called evidence to show the nature of the invention, its great utility, and sufficiency of the specification, also the infringement complained of.

Mr. Gibbs, on behalf of the defendant, contended that enough appeared upon the evidence, after he should have added to it the patent granted to Mr. Belfour,* to destroy

* The specification of Mr. Belfour's patent was as follows :—

"To all to whom these presents shall come, &c.—Now therefore know ye, that I, the said John Daniel Belfour, do, by this instrument under my hand and seal, in pursuance of such proviso in the said recited letters patent contained, and in compliance therewith, declare that the plans or drawings annexed to this instrument, and the description and references hereinafter contained, do particularly describe and ascertain the nature of my said invention, for which such letters patent were granted to me as aforesaid, and in what manner the same is to be performed ; premising, and wishing it to be particularly understood, that the size and dimensions of the machines, and their component parts, which are herein described, are taken from those which I myself have used, and from which the annexed drawings are made, but that


the case which the plaintiff would establish. The action was a bill of discovery against the defendant, in order that he might be obliged to discover to the plaintiff by

the machines may be made of different sizes if required. The effect intended to be produced by the machine invented by me, and for which this patent is taken out, is to improve the manufacture of ropes and cordage, by making every yarn employed in the composition thereof bear its proper and equal proportion of the stress: in order to do this it is necessary that every yarn should, at the time of its being twisted into the rope, be kept tight, to prevent its being squeezed or puckered up into the inside of the strand, as is too much the case in ropes made upon the old principle; and to keep them thus tight, in the operation intended by this machinery, every yarn is to be wound upon a separate reel, which reel is so constructed as not to yield or render out the yarn wound upon it, until such yarn is, in the operation of twisting, called forth to contribute its assistance and proportion in forming the strand. This is the end proposed to be answered by all the machinery mentioned in this specification, in which all the other parts are subordinate to the great machine represented in the drawing annexed, and marked with the letter, A, (Plate IX., fig. 1, and Plate X.) which letter is fixed upon the upper rail of the great frame of the machine. A great part of the effect intended to be produced consists in winding the yarns regularly upon the reels, and to that end a considerable part of the machinery hereafter described is particularly applied, because, when the yarns are so wound on the reels, those reels will yield or deliver the yarns off the great machine, A, then standing still. This machine or frame contains the reels, marked S, on one of which reels a part of every rope-yarn is to be wound, the other ends of such yarn being fastened to the winch or handle that twists the strands. This frame may be made larger or smaller, according to the quantity of reels intended to be placed in it, which quantity of reels depends on the will of the manufacturer, agreeable to the size of the rope intended to be made, as each rope-yarn must have a separate reel for itself. I have found it necessary, in making one strand of a twenty-two-inch cable, to have the frame made very strong, of oak timber six inches square, to enable it to counteract the great strain it has to bear during the twisting of such a strand; and, for the convenience of moving the frame, four rollers should be inserted, two under each side of the bottom of the frame, for it to move on; which rollers may be made of wood or metal, and should be proportionate in size and strength to the dimensions of the frame itself. On the fore part of the frame there is to be placed, as appears in the drawing, a grate-work of wood and iron, marked C, which moves from side to side on two rollers, marked D, which are fixed in the lower part of the great frame, A; and the grate-work is guided on the top by two rollers, also marked D, fixed in the upper part of the great frame, A. The use of this grate-work is to lead or guide the yarns to the separate reels, on which they are to be wound, and to prevent the yarns from getting between the reels, and also to fill the reels with yarns properly from side to side. To produce these effects, this grate-work is moved backwards and forwards, by a great wheel fixed on the right side of the great frame, A, reckoning when a person stands with his back to the frame, and which wheel is marked E. This wheel is of a singular con-

what means he was able to render as good, if not better, cordage into the market at a cheaper rate. We do not make our rope in the way in which Mr. Belfour made his;

struction, and may be made of brass, iron, or any other hard metal, as is hereafter more fully described. This wheel is turned by one of the spindles on which the annexed drawing is made, the wheel is turned by the seventh spindle from the bottom, marked *r*, and that spindle is also turned by the general handle, *o*, which handle, at the same time, turns all or as many of the spindles hereafter described as the manufacturer chooses to set in motion, according to the size of the rope he intends to make. The number of reels which I have used in making one strand, or one-ninth part, of a twenty-two-inch cable, has been 297; which I have placed in the great frame, *A*, on eleven spindles, each spindle containing twenty-seven reels, and the height of the great frame, *A*, thus filled with 297 reels, will be seven feet six inches, and the breadth eleven feet: where a great number of spindles are introduced, the size of the frame must be increased in proportion. The spindles on which the reels are fixed (four of which spindles are marked, *n*) are made of round iron bars, of an inch and a-quarter in diameter, and in length according to the size of the great frame, *A*. They are inserted, at the farthest or right-hand end, into the great frame, *A*, and pass through the frame at the other or left-hand, reckoning as aforesaid, into a plate of iron as represented in the drawing, and marked, *i*; to each spindle is fixed a small handle, marked, *k*, which handle serves to turn the spindles round, for the purpose of turning the reels on which the yarns are wound. These spindles should be made of iron; the reels upon which the yarns are wound may be made of wood, iron, brass, or other metal, but I have found them best and most durable as follows:—The barrel of the reel should be of wood, turned, and should be in length four inches, and in diameter three inches; a hole must be bored through the centre sufficiently large for the spindles, marked, *r*, to go through, so that the reel may turn round easily on the spindles; and on each end of the barrel of the reel, to form the two ends of each reel, an iron plate should be fixed, about one-eighth of an inch thick, and six inches in diameter, so as to make the height of the ends of the reels six inches. In order that the reels, after a sufficient quantity of yarn is wound upon them, may be confined to their own spindles, so as neither to be fixed too fast nor moved too easily, I have introduced four springs into each reel, which springs are marked, *l*, (Plate IX., fig. 2,) and should be made of iron or steel, about two inches and a-half in length, one-quarter of an inch in breadth, and one-eighth of an inch thick in the middle, and smaller towards each end: two of these springs are fixed into each end of the barrel of the said reel in the inside; one end of each spring is fixed fast into the barrel of the reel, the other end is moveable, and is governed by a screw, marked *m*, which, by being turned towards the right, closes the two ends, and thereby fixes the reel faster to the spindle, or, being turned the other way, opens the two ends, thereby allowing the reel to move more freely: a drawing of the inside of one of the ends of one of the reels is included among the drawings annexed. At the distance of four inches from the right-hand end of each spindle, reckoning as aforesaid, and of nine inches from the left, upon each spindle is placed a screw-nut, for the purpose of screwing

we do not make it in the way in which Mr. Huddart has procured a patent for making his; we do not make it in a way to be found in any of the specifications; but we make

all the reels on their spindles close together, or giving them greater liberty, and also for keeping the reels in their proper places; and, to give effect to these nuts, each end of each spindle must be made wormed, so as to articulate with the screw or worm in the inside of each nut. The nuts are described by the letter, o, and may be made of iron, brass, or other hard metal, but I have found those of brass the best; they should be made in the shape of  and about four inches

diameter, so as to be moved by the hand, without a key, or any other instrument. To prevent the spindles from bending, or breaking, or giving way, during the operation of twisting the strand, I have fixed the standard, r, which should stand perpendicularly, and as near as possible in the middle of the great frame, A, and be fastened into the upper and lower parts of the great frame, A. This standard should have holes in it, at proper distances, sufficiently large for each spindle to go through, which standard I recommend to be made of iron, three inches broad and half an inch thick, placed edgewise as near in the centre of the machine as can be; its height, of course, must depend on the height of the great frame, A. It should be inserted into the top and bottom rails of the great frame, or fixed by nails or screws, or in any other manner the manufacturer chuses, so as to make it fast. To prevent the wheels from carrying each other round, there should be placed between every two reels, upon the spindle, a round piece of brass with a hole through it, so large as to let it pass freely round the spindle without being confined to it, three inches in diameter, one-eighth of an inch thick at that part which is nearest the spindle, and reduced gradually smaller, to about half its thickness, at the other edges; this piece may be made of iron, or any other hard metal, but I am of opinion brass will answer the purpose best. The handles described by the letter, x, which are fixed on those ends of the spindles that come through the great frame, A, for the purpose of turning the spindles round, are made of iron, about ten inches long, and a little curved outwards, that they may pass each other; and each handle may be turned separately, or all together, by the iron plate, i, through which plate are holes, sufficiently large to receive the end of each handle, and which plate may be taken off or kept on at pleasure, by removing the screws which fix it to the upper and lower of the smaller handles, x, which screws may be made of iron or any other hard metal. The handles, x, should be about half an inch in diameter, and may be made either round or square; and at that end of the handle where the spindle is introduced, a square or other hole must be made for the spindle to go through, which may be fastened by a pin or screw, or riveted. The plate, i, through which the ends of the small handles, x, pass, should be made of iron, and be about one inch and a-half broad, and a quarter of an inch thick; its length must depend upon the number of spindles there are to be turned by it: the smaller handles, marked, x, may be made in the form of the handle of a corn or coffee-mill. The size of the frame, in which the grate-work of wood and

it in a way which they shall not know, and which they want to know to enable them to meet us in the market; and they try to do it by bringing Mr. Rennie, who states,

iron, marked *c*, is fixed, must depend on the size of the great frame, *A*; it should stand perpendicular, and its breadth and height must be less than the breadth and height of the frame, *A*, because it must move backwards and forwards in the front of the frame, *A*, and it should be less in breadth than the breadth of the inside, or clear of the frame, *A*, by the length of one of the reels; and lower than the clear of the height of the frame, *A*, so as to work freely upon and under the four rollers before described. The frame of the grate-work, *c*, should be made of oak wood, about three inches square; from the top to the bottom of this frame, in a perpendicular direction, should be fixed as many upright bars of iron as there are reels on each spindle. These upright bars are marked, *q*, and should be distant from each other about three inches; they should be about an inch broad, one-quarter of an inch thick, and stand with their flat sides towards the reels, being fixed to the frame, *c*, by nails or screws; through which bars must be as many holes proportioned on each bar, according to the whole number of reels on the machine, the lower part of which holes must be level with the upper part of the barrel of the reel, and as large in height as the sides of the reels are from the upper part of the barrel to the edge of the plate at the end of the reel, and sufficiently large in breadth to admit a common rope-yarn to pass through them with a rough knot upon it. In order to confine these bars in proper places, it is necessary to have two or more cross-bars of wood or metal, marked *x*, which may be made stronger or weaker according to the size of the machine; I have found them sufficient when made of oak wood three inches square. The rollers, *d*, on which the frame or grate-work, *c*, moves at the bottom, and which keep it in its place at the top, may be made of wood or metal, and should be fixed on pins to the great frame, *A*, having grooves in the centre, which fit on the upper and lower part of the frame, *c*; and on the right-hand side of the said frame is fixed a connecting iron, marked *s*, for the purpose of communicating to the frame, *c*, the motion given by the wheel, *z*; which iron, *s*, must be fastened to the frame of the grate-work, *c*, at about one-third of the height from the bottom on the right-hand side, so as to connect it with the wheel, *z*. The length of the iron, *s*, from the side of the frame, *c*, on which it is to be fixed, should be about twelve inches, and one inch square, having on the back part of it, towards the wheel, *z*, two projecting arms about three inches in length, one at the end, and the other near the centre; on these two arms the side plates, *r*, which are fixed on the great wheel, *z*, operate as the wheel, *z*, goes round, thereby giving the grate-work the necessary motion to slide the frame, *c*, from right to left, and back again, in order to fill the reels with yarns equally, as before mentioned. The plates, marked *r*, on each side of the great wheel, *z*, should be made of iron or steel, and should be fixed upon the great wheel, *z*, about one inch within its circumference; their thickness should be about half an inch, their breadth, in the broadest part, should be equal to the length of the body of one of the reels on which the yarns are wound, tapering gradually towards each end till they become level

that before this patent, no rope so good as this was made; proving, from an inspection of the rope, that ours very much resembles those that would be made under this

with the surface of the great wheel, *z*, on which they are fixed; their length must depend on the size of the great wheel, *z*, which is to be regulated by the magnitude of the machine. On a machine, capable of containing the quantity of reels sufficient for making one strand of a twenty-two inch cable, the great wheel, *z*, should be two feet in diameter and about half an inch thick, which wheel should be of iron, and it may be either open or solid on its circumference; it must be divided into teeth, at distances proper for receiving those fixed on the end of the seventh spindle from the bottom before mentioned, which protrudes through the end of the frame, *A*, to act upon the great wheel, *z*, so that it may receive motion sufficient to cause the grate-work, *c*, to move from side to side a space equal to the thickness of a common rope-yarn each time the reels on which the yarns are wound go once round; by which means the reels can be properly filled, and, consequently, the reels need not be any larger than to hold the quantity of yarn which is twisted up in making the first strand of a rope; for example, suppose in the common method of making ropes, one-sixth part of the yarns is twisted up in the operation of making the first strand (say of yarns 180 fathoms long), then on this machine must be wound thirty fathoms of each yarn, so that (instead of a sledge moving forwards, as in the common way, as the strand is twisted) this machine is fixed fast, and, as the strand is twisted from the opposite end of the yarns, each reel moves round and delivers its yarn, faster or slower according to the circle which each yarn occupies in the strand; whereby a very considerable saving in the yarn will be found, by the quantity left on the reels of those yarns which lie in the inside parts of the strand. A rope thus made, by each yarn being kept tight from one end of the strand to the other in the twisting, will not only receive a very considerable degree of additional strength, but will be much less liable to stretch; and it will at the same time, from its compactness, keep the water out much better than a rope made on the old principle; it will wear longer, and be less subject to what is called 'meg,' or to break in the partial manner called by seamen 'stranding,' which means one strand giving way before the other; and, from the process I have made, all ropes from the circumference of two inches upwards receive more than one-fourth part of additional strength from this process, which strength increases as the ropes are made larger; so that I apprehend a twelve-inch cable, made after this manner, will answer all the purposes of one of fifteen inches made in the common way, independent of the saving in the materials. The wheel, *z*, so frequently mentioned, is placed on the side of the great frame, *A*, on a round bolt or spindle of iron, marked *v*, about eight inches long and one inch in diameter, upon which bolt or spindle the wheel turns round; and, in order to use the wheel, *z*, so as to move the grate-work, *c*, from side to side (in case the seventh spindle should be broken, or not be wanted to be used), on the outer end of the barrel or nave of the wheel, *z*, may be fixed a handle, to turn it without the use of the teeth on the projecting part of the seventh spindle. On the back of the left-hand side of the great frame,

patent; and desires you to infer from thence, that it is impossible for any other man to come to a useful invention but Captain Huddart; and that that must be presumed to

A, through which the ends of each spindle come, it is necessary to have a hook or stop, for the purpose of fastening each handle, after a sufficient quantity of yarn is wound on the reels, so that the spindles may remain immoveable during the operation of twisting the strands, while the reels work perfectly free and independent of each other round the spindle. It is also necessary to fix on each reel a piece of line or leather, fast at both ends, the bite of which is to be put through the holes of the grate-work in the uprights, marked *q*, for the convenience and despatch of fastening the yarns thereto; which line or leather should be of such length as to be conveniently reached (say from two to three feet); and in order to have them always handy after the spare yarn is taken from them, a bolt, or piece of wood, may be put through the bites of those which the size of the rope may not require to be used, to prevent them from being drawn through the grate-work, and thereby creating confusion among the reels. At the back ends of the lower parts of the great frame, A, should be fixed straps or bolts, for the purpose of fastening it, to prevent its moving forward during the operation of twisting the strands; and, if it should be thought necessary, for the better strengthening and securing the spindles, more than one of the upright standards, *r*, may be used; for, if that is done, it will render a proportionably greater number of the nuts, *o*, necessary for regulating the situation of the reels on the spindles.

"The above is the explanation of the construction and effects of the principal parts of the machinery used in this operation: what follows relates to the detached parts of the machinery which are necessary, according to my plan, to complete the whole. The machine which I call the separating machine (see Plate XI., figures 1, and 2,) is for the purpose of keeping each yarn free and separate from the others, during the operation of twisting the strands; and there may be one of these separating machines for every fifteen or twenty fathoms of yarn to be twisted, at the option of the manufacturer. It is to stand loose, for the convenience of being moved when necessary, and its size must depend on the size of the great machine, A; but for the strand of a twenty-two inch cable, I found it necessary to have its breadth three feet, and its height four feet six inches. The standards, or sides, marked *a*, may be made of wood, four inches broad and two inches thick; the rest of the frame in due proportion. In the inside of both the standards, or sides, *a*, must be a groove, two inches broad and three-quarters of an inch deep, from the top to within two inches of the bottom of the standard, to admit the frame, *b*, to be slid up and down if thought necessary; and the two standards, *a*, may also, if thought proper, be connected, at half their height from the bottom, by a hinge, so that they may fall down outwards, in order to give more room in the ropewalk; and, when in use, these sides may be kept fast by a small hook, bolt, or pin, at each side. The frame, *b*, must be made to fit the groove in the standard, *a*, and be half its height, into the bottom of which frame should be inserted, and fixed, bars of wood or metal, marked *c*, but I prefer wood, on account of its being lighter. Each of these bars

be made according to Huddart's patent, which is made as good as Huddart's. That is a sort of evidence upon which, I believe, no verdict ever was obtained for a

should be as high as the frame, *b*, and about one inch square, having a space betwixt each of about one-quarter of an inch. The frame, *b*, should be open at the top, like the teeth of a comb, for convenience of admitting the yarns to be dropped in, without the trouble of receiving them through; and to facilitate the doing of this, on one side of the bars there should be as many small bolts or rods, made of round iron, about one-eighth of an inch in diameter, marked *d*, as there are spindles in the great machine, *a*, so that each yarn may be separated from the other; and these rods are to be put through bored holes in the three upright parts of the frame, *b*, marked, *e*. On the end of each rod should be a small knob, or head, and upon the rods, immediately within their knobs or heads, must be placed a plate, *f*, with as many holes in it as there are rods, through one of which holes each rod is to pass, which plate I find best made of iron; it should be so long as to take in the ends of each rod, and of sufficient strength to bear the rods being all drawn out at once if required; upon which plate may be placed handles, large enough to receive a man's hand, in order to draw out the plate and rods all at once. These rods should be at equal distances, according to the size of the frame, as they are intended to keep the yarns from falling upon or mingling with each other; if they are at the distance of one inch it will be found sufficient to prevent confusion. The reason why these rods should be thus loose is for despatch; for example, before the ropemaker begins to work, all the rods are to be drawn out of the machine, and as the men or boys employed carry the yarn along, they are to drop the yarns between the bars, *c*; as soon as the yarn is put between every bar, the lowermost rod is to be put into its place, after which the next row of yarns is to be put in, then the second rod, and so on till the whole number of yarns required to be used shall be dropped in. The use of the plate, *f*, is as follows:—When the twisting of the strand is begun, and the top minor (an instrument used in twisting, the nature and use of which is hereinafter described) approaches towards the machine, fig. 1, one of the workmen is to draw all the rods out at once, by which means the yarns are entirely free of the machine, and no impediment is occasioned by the operation; he is then to draw out the pin, *g*, which keeps the frame, *b*, in its place, whereby that frame falls to the bottom, in the grooves, as before described, and, if occasion requires, he is to unhook or loosen the hooks, *i*, by which means the upper part of the standards, *a*, falls down upwards, and thereby gives more room in the ropewalk. According to the length of the rope intended to be made, more than one of these separating machines are to be used in the same manner; I find, by experience, that one separating machine at every fifteen fathom is sufficient, but the number should be proportioned to the distance each yarn is kept from the other, because the farther the yarns are separated from each other, the fewer of those separating machines are required. To prevent the strand from being twisted too quick, I have introduced an instrument, which I call the top minor, marked *u*, (Plate XI., figures 3, and 4,) which is inserted between the yarns, and keeps each yarn sepa-

plaintiff before; but they say, this is evidence for you to infer the fact, unless the contrary be proved by the defendant.* I will not go that way to work; I will attack

rate from the rest, it moving along as the strand is twisted. The top minor, *v*, should be made of strong tough wood, which I have found best of elm or oak, and its shape and use are as follows:—In shape it resembles a sugar-loaf, but is not so piqued at the small end, but at the broad end exactly of the same form as per drawing, *v*; round the broad end should be fixed a hoop of iron, which is to be let in level with the wood, which hoop must be made according to the size of the top. To this hoop should be fixed small projecting pieces of iron, their length about two inches, their breadth about one inch, and their thickness in the middle about one-eighth of an inch, and something smaller towards each edge: they should stand at the distance from each other of one-quarter of an inch, or more if possible to be allowed, which must depend on the size of the rope to be made, otherwise in making the strands of a great cable its size will be increased so as to render it cumbersome to use; for example, a top minor of about nine inches diameter at the broad end, will be of a size sufficient for the twisting a number of yarns to make a strand of a twelve-inch cable, whereas, to make a twenty-two inch cable, it would require one of twenty-four or twenty-six inches diameter; and when the whole quantity of cavities between the spikes of the top minor are not wanted, the yarns can be placed between every second or third, so as to render but few of these top minors necessary in a rope-walk. Its length should be the same as the diameter at the broad end, and it should decline away towards the small end. At one-fifth of its length from the broad end should be fixed, either into or through it, two handles, for the purpose of guiding it as the strand is twisted, by which means it may be impelled forward or kept back, so as to cause the strand to be twisted harder or more open, at the option of the workman, and the reason of its being so stunt (as I call it) at the small end is, that it may not jam among the yarns; and from its shape, and being greased before it is placed among them, it will be found to require very little assistance, but will move forward as the strand is twisted. If, in making the strand of a large rope, it is thought too large or cumbersome to be governed by hand, it may easily be fixed on a small sledge, to relieve the workman, which sledge, if necessary, can have a small winch in it, upon which winch a rope may be used, fastened to the opposite end of the ropewalk, to heave the sledge, and the top minor along with it, forward as wanted. Various other methods may be substituted for the purpose of preventing the strand from twisting, until it has received that position the workman wishes; such as pieces of wood with holes bored in them; small machines divided in a similar manner, or something like the separating machine before described; or by the external application of a ring, or other circular instrument, or any other shape, so as to press upon the strand, and prevent its receiving an improper twist, to serve the purpose or intention of

* Circumstantial evidence of infringement was held to be sufficient in a subsequent case, *Hall v. Boot*, hereafter given.

Mr. Huddart at once : I will show that he has no title to support his patent out of the mouth of his own witness, who did not endeavour to deceive. His Lordship will

the top minor ; for, unless the strand is regulated in the twist, and kept exactly in the position in which it is to remain, the good effects proposed by this invention will be, in a great degree, defeated ; but it is not of any consequence in what manner it is regulated, so long as that point is accomplished. The reason why I prefer the top minor, as here described, and marked, v, to any other mode, is, that it may be put among the yarns, and thereby save considerable trouble, and, when it is done with, it can be easily taken out again. The length of the handles to be affixed to the top minor may be optional, from one to two feet and a-half, and they may either be fixed into it, or run through it, and should be of iron, two inches and a-half in breadth, half an inch thick in the middle, and rather thinner towards the edge. To prevent the strand, when it is twisted, from untwisting again, I have found it necessary to have a contrivance, which I call 'nippers,' marked w, (Plate XI., fig. 3,) which are to be screwed fast on that end of each strand which terminates at the great machine, A, after the strand has received its proper twist, and before it is loosened from the great machine, and placed on the great winch commonly used for the purpose of twisting the three strands into one ; and these will also serve to conduct the strands exactly towards the great winch, so as to prevent one strand being longer than the other ; they should be made of iron, sufficiently strong to bear the strain that may be requisite, which is no more than to hold the strands tight after twisting. In the bite of these nippers the strands must be fixed fast by a screw, and the nippers must be properly secured in the frame ; as soon as one strand is fixed on the great winch, the sledge with the nippers may be slipped under the next strand, and, when that is fixed, to the third. The thickness of the nippers, in the shank, should be about one inch in diameter, and the hole of the sledge, through which they are fixed, sufficiently large to admit their being turned round with ease ; their shape should be as per letter, w, and they may be fixed into the upper or cross-bar of the sledge, or the fore part of the great winch (at the distance of six, nine, or twelve inches from the shanks of the same), heretofore used in twisting the three strands into one ; but the nearer they are fixed, the shorter the neck need be to convey the strand to the winch. The jaw, x, may be made to open sufficiently to receive one strand of the largest rope, as it may be screwed together so as to confine the smallest, and it may be made either round or square. In order to facilitate the general work, as each yarn must be placed separately on a reel on the great machine, A, it would be better to have a great number of whole yarns wound on separate reels, distinct from those which are placed on those spindles, always ready for use ; the yarns may be wound on these reels by boys, women, or old men, as soon as the yarns have gone through the tar, and are sufficiently dry. The size of these distinct, or spare reels, must depend on the length of the yarn, and they should be made of light wood, with a hole through each sufficiently large to receive a bolt, on which they can run round with ease, at one end of which bolt there should be a handle fixed ; and as the reels are put on one by one, there

tell you, that in point of law, when a man takes out a patent, he must communicate to the public the way in which he does it, neither wider nor narrower than his in-

should be a small brass or iron ring put between each, so as to prevent one reel from pulling the other round, similar to those between the reels on the spindles in the great machine, A. The use of these reels, with the yarns thus wound, will be easily perceived to be to facilitate the winding the yarns from them, on to the reels or the spindles in A, and the number of them must be proportionate to the size of the rope intended to be made and the strength of those who are to carry them; and when the intended quantity of reels is put on the bolt, another handle may be easily put on the other end of it, to keep the reels on, and make it more convenient to carry. When the number of reels is so placed, the end of each yarn must be fastened to the bite of the cords, or leather straps, fixed on the reels of the great machine, A; then the intended quantity of yarn, from the other reels on the bolt, must be wound on the reels of the great machine, A, while those who bear the reels on the bolt, walk on gradually towards the upper end of the ropewalk, permitting the reels to run round and quit the yarns as they go. When the reels on the great machine, A, have received as much yarn as is intended to be put on them, let the other ends of the yarn be fastened to the twisting winch, as usual, at the opposite end of the ropewalk. It will always be advisable, in winding the yarns on to the reels in the machine, A, to begin with the lower rows of those reels, on account of placing or dropping the yarns properly into the separating machine; and it will be also advisable to wind on to the reels, in the machine, A, as many yarns at one time as there are reels on one spindle, because, a whole spindle of reels being turned by one handle, time and labour will both be saved. In order to place the yarns in the separating machine with the greatest ease, the conductor, marked v, (Plate XI., fig. 4.) will be found useful, and it may be made of wood, of a sufficient length to admit small pins to be fixed into it, at the distance of about one-quarter of an inch from each other, between which the yarns may be placed as soon as they are wound on the reels upon the machine, A; and two boys can, with the conductor borne between them, follow those who carry the yarn along, and by that means the yarns will be placed much sooner, and more regularly, in the separating machine. As few rope-makers have occasion to make cables larger than eighteen inches diameter, the generality of them will, in my opinion, find a machine that will contain 200 reels, for making one strand, large enough, but this will, in some measure, depend on the thickness of the yarns. It will be proper to have three of these machines, because then all the three strands of a cable may be twisted at one time, and thereby greater regularity effected. Those who make no larger than a sixteen-inch cable in diameter, will find a machine that contains 160 reels large enough, allowing always for the different thickness of yarns; but when a twenty-two inch cable is to be made, it will be necessary to have the quantity I have mentioned in the former part of this specification, viz., 297 reels; although by this improved method of laying the yarns together, by which each yarn is made to bear an equal strain, I am fully persuaded that an eighteen-inch cable will be found to answer all

vention; and not only the public must be able to make the thing by his specification, but his specification must not state that as a part of his invention which was not so; the specification describing the invention must be sufficient to enable any workman of skill to produce the workmanship for which the patent is taken out. In the next place, it must not contain in it, as a part of the invention, anything that is not new, and which the patentee has no right to obtain a patent for. I shall have no difficulty in showing that this patent cannot be supported for a moment, for it does most unquestionably go to many things which it is not pretended were the invention of Captain Huddart. You have heard us both speak of a

the purposes of one of twenty-two inches made in the common way; and there will be a saving of a considerable quantity of the yarns, which will be found left on the reels, which, in the usual mode of twisting, would have been all wound up into the strands, and which in a large cable will amount to a very important quantity; or, if it should still be wished to use cables and ropes of the same dimensions as hitherto, a prodigious increase of strength, compactness, and durability, will be found in strands twisted by this machine. The ropes made by this machine should be wrought by steady and well-practised workmen, and when they come to lay the three strands into one, they should endeavour, by all means in their power, to turn at both ends of the ropewalk with an equal motion, so that no more twist may be taken into the first strands than when the top minor passes through them; for, by any considerable alteration in twisting, either too slow or too quick, part of the improvement intended by this process may be defeated; for if twisted too quick at the end towards which the top approaches, the outside yarns will receive more strain on them than they ought to have, and, if too slow, the inside yarns will be affected in a similar manner. Therefore it is necessary to be attentive to this part of the process, and as the sledge, through which they twist the strands, as well as the machine, A, both stand fast during the laying the yarns into strands, it may not be amiss to have a small bell over each with a line fixed to it, and conducted along the top of the rope-walk, within reach, to give notice to the men at the other end when to stop. Every part of the manufacturing of cordage and ropes in general may be executed in the manner hitherto practised, except this of twisting the yarns into the first strands, whether for the purpose of making what are commonly called 'water-laid ropes,' or 'shroud-laid ropes;' and the hemp may be dressed, and the yarn spun and tarred, in the usual manner. In making smaller ropes, three strands can be made on one machine, according to the number of the yarns which may be required. It must also be observed, that in twisting the strands there must be a top minor for each, all of which should be carried along at one time, equal to each other, that the three strands may have an equal texture.—In witness whereof, &c."

JOHN DANIEL BELFOUR.

patent granted to Mr. Belfour, which I now, for the first time, hear Mr. Huddart has bought of Mr. Belfour; that Mr. Huddart's patent cannot stand with Mr. Belfour's, is as clear as the sun. It is impossible to say that Mr. Huddart's patent is not taken out for a part of that to which Mr. Belfour's patent applies. Mr. Belfour's is to improve the manufacture of ropes and cordage, by making every yarn employed in the composition thereof bear its proper and equal proportion of the stress. Mr. Huddart's is a new mode or art of making great cables, and other cordage, so as to attain a greater degree of strength therein, by a more equal distribution of the strain upon the yarns. Now, it appears that the attaining a more equal distribution of the strain upon the yarns, and the making each yarn bear its equal and proper proportion of the stress, is precisely the same thing; therefore the object of the two patents is the same. *Mr. Gibbs* then proceeded to compare the different parts of the two inventions, contending that if Mr. Belfour's patent was bad, he loses the advantage of it; but that does not give any other person a right to get a patent for it at any other time. As soon as it is recorded, it becomes *publici juris*, and it remains the property of the public, when it is relieved of the clog of his monopoly. If Mr. Huddart has taken out his patent for that which was before *publici juris*, for that which was before known to the world, Mr. Huddart's patent cannot be supported, however more useful a thing his may be than Mr. Belfour's. The question is, whether Mr. Huddart has not taken out his patent for that which was comprised in Mr. Belfour's patent before; and if it was, Mr. Huddart's patent cannot stand, though it were better than Mr. Belfour's, because it was taken out larger than it ought to have been. Mr. Huddart scorns to build his inventions upon the ideas of other men. A patent may be taken out for an improvement; for instance, supposing Mr. Huddart's patent to be a good one, and supposing he could support every claim that he makes to the monopoly of that patent, I might still take out a patent for any improvement that I could make to his manufacture. I must pay him first for the use of his patent. I cannot use that without his consent; but having got that, I may have a patent for an improvement; there is no doubt about it. So might Mr. Huddart have proceeded with respect to Mr. Belfour's

invention. If Mr. Huddart's patent be good for anything at all, it must be supported in all its parts, or not at all. The Learned Counsel put in Mr. Belfour's patent and specification, saying, If Mr. Huddart's specification applies to anything known before, in point of law his patent falls to the ground, and the present action cannot be supported.

Mr. Erskine, in reply, stated, that the patent claimed a new mode or art of making great cables and other cordage, so as to attain a greater degree of strength therein, by a more equal distribution of the strain upon the yarns. Mr. Belfour claims his patent for a similar thing, but he does not accomplish that similar thing; and so far from accomplishing it, he does not attempt it. Mr. Belfour says, his patent is to improve the manufacture of ropes and cordage, by making every yarn employed in the composition thereof, bear its proper and equal proportion of the stress. Has he accomplished it? Has he aimed at the accomplishment of it in the same mode that Mr. Huddart has aimed at the accomplishment of it? If a person proposes an object and an end, and if he wholly fails in that object and that end, or proposes to attain it by means altogether different from those which I employ, am I prevented from taking out another patent to accomplish that which he has professed to accomplish, but in which he has wholly failed, in consequence of using methods wholly inadequate; but by pursuing different objects and different methods for the accomplishment of it, I succeed in that in which he has totally failed, as appears from the two machines. Bobbins and spindles are no part of either invention; they were in common use before in every machinery for the manufacture of cotton, or anything that is drawn out in a continuous line, if it is not done by hand. Every operation that can be performed by machinery, by the rotary motion of wheels having different axes and different revolutions, has been known for centuries in the mechanical world. It is said we have made our specification larger than our invention. If it is meant that we have introduced many things into the specification that we did not invent, I admit it; but if it is meant that we consider as a part of our invention, that which belonged to the public before, or took from another man that which he took from the public, I deny it. It is not meant to say that Mr. Huddart invented a

spindle and a bobbin, &c., when he mentions them in his specification. But it is said, why did he not say what was not his invention; why did he not say, *nota bene*, a spindle and a bobbin I do not claim as my invention, and so on with the other parts. There must be bobbins and screws, and all those sort of things, where the subject matter is to draw off that which is to be the subject of manufacture: but it has nothing to do with ropemaking, and never was one of the *desiderata* for that work. The only thing to be complained of is, that we have not said, all the way we go along, *nota bene*, this is no part of our invention; but has it anything to do with ropemaking? Mr. Belfour puts bobbins and spindles into his patent: we certainly did not think that destroyed it, or we should not have bought it. Can it be said that Mr. Belfour's bobbins and spindles taking off the yarn could be an invention? Certainly not, because it was known to all mankind. It was not one of the *desiderata* in ropemaking, that when the yarns were stretched out in the rope yard they should be of equal tension, because we all know you may make them of what tension you please: if it is necessary to have any given degree of tension, or an equal degree of tension, you can do it by a screw; but the imperfection of the ropes is this, that they are turned altogether: there was no way of making them occupy relative situations in the strand, so that the strand did not work together or strain together, and that the rope, taking all the infirmities of the strand, could not be depended upon. These defects are supplied by the ingenious contrivance of the plaintiff. The invention of the plaintiff consists in bringing the threads together in concentric circles; but that alone will not do, they would fall into confusion, and be riding upon one another's backs; but by the use of the tube, they were to be kept each in its particular station: the strand is formed in the hollow of the tube, and they must emerge from it before they can form into any regularity; and by that means a rope was exhibited, the contrivance of philosophy upon the principles of mechanism. This is the gentleman who now claims a verdict. Has Mr. Belfour's machine done anything like it? When Mr. Belfour in his own mind first imaged the machine, did he contemplate the same thing? He says in his patent he did; but did the experiment prove it? [Mr. Erskine then commented upon the parts

of Mr. Belfour's machine, and upon specimens of the rope produced by each machine; contending from the comparison, that he had a right to say that Captain Huddart is the author of an important invention.] *Mr. Erskine* denied that those things considered to be part of Mr. Belfour's invention had anything more to do with it than Mr. Hartley's iron plates had anything to do with his method of preventing fire in buildings, because iron plates had been used before. You cannot state any machinery without stating a great deal of machinery that is known already. You must mention everything that is necessary for a common workman to put up that basis of machinery, which is to be the primary motion by which the machine is to be set agoing. Suppose I have discovered any curious and complicated machine, and I may set it in motion by a wind-mill, a water-mill, or by steam, I say I have found out a method by which it is accomplished. Then how is it to be accomplished? Why, take a steam-engine, the copper must be of a certain diameter, the tubes must be of a certain size; but would any man suppose I had invented a steam-engine? You must spread so much canvas, you must have so and so. These are common parts of mechanism, understood by everybody. Am I to be supposed to be claiming that because it is a part of the thing, and is the moving power which creates the basis of the manufacture? Certainly not; all this belonged to the public before: any man, therefore, may use spindles and bobbins, and draw off from them whatever manufacture he may wish, when he describes upon the face of the instrument in what his invention consists. The second point for consideration is, whether we have a right to a verdict against the defendant, who in the simplicity of his character, has made the defence you have heard; who comes to the house of the plaintiff in the year 1799; was received as a friend; had information, and perhaps ocular inspection of the plaintiff's machine; had a kind of half promise; claims that promise in a letter to Mr. Huddart; he expects he will give him leave to use the patent.—he who has a mode so much better than the plaintiff's, that he had shut his doors against us lest we should send our ropes to market at so much less a price; lest we should steal his method; that we should steal back again what is our own. We have exhibited what he does make; it is not

better than ours: that cannot be better which is the same. It appears to be worse; it is not made with the same care and skill, though it is made in the same manner and fashion as the plaintiff's. My Learned Friend says, we have given no evidence of the invasion; that this is a bill of discovery to drive him to produce his invention that we may borrow it. Is there no evidence? Here is a rope which we have proved cannot be made by any other mode than ours: then that is an absolute conclusion, and if it is not so, why do they not enter into contrary proof? An artist might say, I think there are other ways in which it might be done; but still if he pirates it, if it is not his own, but ours imitated, he is guilty, and must answer to us in damages. We have produced all the possible evidence that we could produce against a man who shuts his doors against us, and he calls no one to contradict the judgment of Mr. Rennie. If this man was doing right, why did he shut his doors not only to the world, but to his own servants, his own clerk and book-keeper? Is it no evidence against him, that he asks permission before he commences this work, to use our method? That after having made rope from the time of his beginning his trade, after 1793, the date of our patent, and up to the date of his letter; and after we had refused him, that he then, for the first time, does that which he never did before; he shuts up his doors? Will you attribute what he has done to the mere accident of two ingenious men hitting upon one thing? That he, in 1799, discovered what we had discovered in 1793? There is never a case but is possible: it might by possibility be done by other means; but is that the way in which you will give your verdict? more especially when a person shuts himself up in darkness, and will give no testimony, though he has it in his power. You may, with a safe conscience, find my patent invaded, when a defence so perfectly contemptible and ridiculous is set up. If any person can expect a verdict without testimony, to be sure my Learned Friend is entitled to yours. In describing our mode in the specification, as it was done by machinery, we were obliged to involve a great number of things that were perfectly well known, but which constituted no part of our invention. Mr. Belfour's is a machine for other objects: we are the original inventors, and entitled to your verdict.

Lord Ellenborough.—Gentlemen of the Jury, this is an

action to recover damages for the violation of a patent, which the plaintiff has obtained, and which he says is a valid patent, entitling him for a limited period of time to the monopoly of an invention, which he states to be new, and beneficial to the public. Gentlemen, this is a species of property highly important, as it respects the interests of the individual, and with him also the interests of the public. That persons who are really the means of promoting any beneficial object, should be protected for the period which the law allows, and that they should have the benefit of the article so invented; and on the other hand, in case they are not the inventors, that they should not lock up from the public, for that limited period of time, that invention, which, if they are not the inventors, they have no priority to, and which ought to lay open to the public. In inventions of this sort, and every other, through the medium of mechanism, there are some materials which are common, and cannot be supposed to be appropriated in the terms of any patent. There are common elementary materials to work with in machinery, but it is the adoption of those materials, to the execution of any particular purpose, that constitutes the invention, and if the application of them be new; if the combination in its nature be essentially new; if it be productive of a new end, and beneficial to the public, it is that species of invention, which, protected by the King's patent, ought to continue to the person the sole right of vending it, but if prior to the time of his obtaining a patent, any part of that which is of the substance of the invention has been communicated to the public in the shape of a specification of any other patent, or is a part of the service of the country, so as to be a known thing, in that case he cannot claim the benefit of his patent; and in claiming the benefit of a patent, it is required that there shall be enrolled a specification, which shall convey to the public a corresponding advantage with that of the individual whose sole right is protected for that time, so that any person looking at a specification, who is skilled in the subject, may be able to accomplish the end; and if in stating the means necessary to the production of that end, he oversteps the right, and appropriates more than is his own, he cannot avail himself of the benefit of it. I don't mean if he states a bobbin which was in common use before, but if he states any particular thing before in

In mechanical inventions, some materials are common and cannot be claimed in them
Adaptation of such materials to a particular purpose, if newly applied, constitutes an invention to be secured by Patent

There shall convey to the public a corresponding advantage with that of the inventor, for the time, this description intelligible to one skilled in the art cannot by one statement avail himself of more than he has invented.

P

A. P. This remark does not apply to things in ordinary use as a matter of detail of too well known as common property to require special distinction

*It then may be
inferred by all means
to this unnecessary
to be mentioned*

common use, applied in a new manner to the production, and effecting a new end ; that is, part of the substance of the invention. And if he states that which of itself is not new, but old and known to the world, though it was unnecessary for him to do so, having done so, he has overstepped his right, and has included in his invention that which is not his invention ; in that respect his patent would be void. It is for you, applying these observations to the present patent, of Mr. Belfour and of this gentleman, to say whether this is a new invention, whether the springs are substantially a part of the invention, and if they be, whether they are new. It is likewise to be considered whether the tube is a new invention ; and the next consideration, supposing you should be of opinion that it is a new invention, and old means adapted to the production of a new effect, whether the defendant has been guilty of an infraction of the patent ; and I premise these observations for your better understanding the evidence.

The first piece of evidence is a letter, dated

"Patent Ropery, near Sunderland, 21st August, 1799. Our Mr. Grimshaw has just got home, and has informed us of your friendship to him, for which please to accept our best thanks. He also informed us that you have a patent for improvements in rope-making, and that you were so obliging as to say that we might use your methods (at our ropery only) without premium, provided that the gentlemen concerned with you had no objections. As we are anxious to forward any improvements in the manufacturing of an article of so much importance to this maritime country, we take the liberty of requesting you will please to inform us whether we may consider ourselves at liberty to proceed in the adoption of your inventions."

Now, to be sure, no argument arises upon the face of this letter, that they knew and admitted that the invention of Mr. Huddart was a new invention, unless they were perfectly cognisant of all its parts at that time. But that does not appear from this letter ; it does appear that this man had visited their manufactory, and after he got home, he wished to have the liberty of using their invention ; that liberty is refused by a letter of the 29th.

"Gentlemen, your letter of the 21st has been communicated by Captain Huddart (who is now on a survey) to the other gentlemen in the concern. Apprehensive a grant to you might lead to an invasion of our patent from other quarters, in justice to ourselves, after the considerable expense that has been incurred, we feel ourselves under the necessity of refusing your request."

These letters are in 1799. Now there is a letter since, so late as 15th July, 1800.

"Gentlemen, after your application to Captain Huddart, for liberty to use his patent methods of making ropes, and our refusal to permit the same, it has greatly surprised us to receive information (as we have lately done) that you have introduced those methods of making ropes into your manufactory without our licence, and even against our consent; and that you use and vend ropes so manufactured in considerable quantities, in violation of the exclusive privileges granted by the said patent, and consequently to our great loss and injury. We should be sorry to be engaged in a litigation on this subject, especially with your house. It would give us great pleasure, if you could satisfy us that we were misinformed; but fearing that is not the case, and being resolved to protect our property in the most effectual and decisive manner; and to suffer no encroachment on, or violation of, those rights which we constantly respect in others, we think it proper to give you notice, that unless you henceforth desist from the use of Captain Huddart's patent methods above mentioned, and make us proper acknowledgments for what is past, we shall immediately cause the necessary proceedings to be instituted against you for our protection in future; and to obtain a compensation in damages for the injuries we have already sustained."

This is a letter giving them notice that necessary measures would be taken against them, to obtain a compensation in damages. In answer to this, there is a letter of the 23d July, in the same year.

"Sir, we have received your letter of the 15th instant, and as we believe that we have not introduced into our manufactory any methods for making ropes in which you are entitled to an exclusive privilege, we conclude you are misinformed in that point; but being equally with yourselves desirous of avoiding litigation, if you will inform us the instances, or in what parts you suppose us to have infringed on your patent rights, we may perhaps be able to convince you that there is no foundation for the charge. At the same time, to shew you how little we are disposed to be litigious, we have for some time past remarked, that there are parts of Captain Huddart's specifications strictly within our prior patents, which we have refrained from noticing, because we would avoid contention as much as possible."

Then there is another letter, of the 14th July, 1801.

"Gentlemen, being informed that you carry on your manufactory of ropes in a secret manner, and as you refused me admission when I called upon you at the ropery, and having seen some ropes that were made by you, I am convinced, by the inspection of those ropes, as well as by your secret manner of conducting your business, that you are making use of my patent method of registering the strands of cordage, as described in the specification of my patent, of the year 1793; and am therefore desirous that your manufactory should be inspected on my behalf, by my friend, Mr. John Rennie, engineer, whom I introduce for that purpose. Your answer and conduct on this occasion will enable me to determine in what light to consider you and your proceedings in this

matter, and unless I shall hereafter be better satisfied with the fairness and rectitude of your transactions than I am at this time, I shall commence and carry on against you such proceedings in law or equity, or both, as counsel shall advise."

That letter is no further material, than as it contains this complaint against them, and desiring to see their manufactory, which was refused.

The next piece of evidence is an advertisement in the "Newcastle Courant." I do not know that it is necessary for me to go through all the particulars of this advertisement, in which they state the advantage of their ropes being two to one, or something of that sort.

The first witness called on the part of the plaintiff is Mr. Stoddart, book-keeper to the defendants, who has been in that situation better than six years. He says, from 1797 to 1800, he was acquainted with their manner of making ropes; they then made ropes in the common way, in an open rope-walk; he is not acquainted with the manner in which they now make their first strand. "A rope is composed of three strands; I was advised with before in making their ropes in the common way. Although I live with them as before, I don't know in what mode their ropes are now made. I am not acquainted with the manner of making Mr. Huddart's ropes."

Upon cross-examination he says, up to 1800, the defendants made their strands in the common way, in a rope-walk. To be sure, no imputation lies upon them for not communicating to their own workmen so important a discovery, as that the business of a rope-walk should be carried on in so small a place as is represented. "A common rope-walk," he says, "must be the full length of the yarn; they make it now in an inclosed place, not the twentieth part of a rope-walk." Upon being re-examined, he says, he saw the strands after they were made, and in opening out the strands, he observed a difference between the ropes made by them and the common ropes. In those, he says, made by his masters, the yarns all bear an equal proportion of strain, which is not the case with common ropes.

Mr. John Rennie is then called; he says he is an engineer by profession; he says he is acquainted with the subject of rope-making; that by the old mode, the yarns for the strands are cut of the same length, they are stretched on the ground previous to being twisted.

When the twisting took place, some of the yarns took one station in the strand, and some another; those nearest the outside, passing over a large space in the operation of twisting, were necessarily brought to a considerable degree of tension, while the yarns towards the centre of the strand become puckered up. The effect was, that when a strain was put upon the rope, the external yarns sustained the weight, and those towards the centre sustained no part of the weight; when the strain therefore was put upon the rope, the outside yarns having been brought to a great degree of tension, naturally gave way first; those in the next degree of tension gave way next, and so on till the centre yarns, which were originally puckered, came to bear the weight. The number of yarns being diminished, of course those in the centre were unable to sustain the weight. He says the common rope gave way in the manner I have stated; in the wearing of a rope the outside yarns wear first, then the second set of yarns, and so on; a much less weight would break them in this state than would otherwise break them; and this continued, that is, the unequal strain continued, down to Mr. Huddart's patent. He says, "I have examined the patent and specification with attention; it appears to me to have provided a perfect remedy for this defect by a new method. The specification and drawing annexed to it will enable a man of science to understand the method, and how it should be carried into effect." He says, "I have attended to the manner of constructing strands upon Mr. Huddart's plan." He assumes that the yarns to be manufactured have been usually put on bobbins; they are then passed singly through a plate, which is called a register plate, composed of holes formed in concentric circles; they are then passed through a cylindrical tube, which may be either solid or composed of two semicircular pieces; the tube is the most essential part of the invention: the yarns passing through the register plate are formed into one strand; by this tube being disposed in concentric circles, they take the same relative position in the tube which they had before in passing through the holes, and in that state of relative position, the strand is composed of concentric circles or shells of yarns, the outside shell being of a larger diameter; the second shell or layer of yarns being of less diameter than the outside layer, are so much shorter; each layer diminishes gradually

till they come to the centre, which consists of a single yarn, the length of the strand. "I have examined some that have been so manufactured, and the strand being composed of compressible materials, if it were broke in the state in which it came from the registering machine, the centre yarn would break first, that next to the centre would break second, and the outside yarn would break last; the outside shell of yarns surrounding a considerable body of hemp when it is brought to a degree of tension, the outside yarns compress the body of them within, and by this compression the angle is diminished, and they become longer; the centre yarn being at its full length snaps first, then the next, and so on. In order to prevent this difficulty, Mr. Huddart has contrived a mode of what he calls setting up or hardening; after the strand comes from the register he gives it an additional twist, and by this means the centre yarn becomes 1-18th part shorter; the outer yarns from the centre are set up proportionably to the centre, and by that means compressing the whole mass, each yarn is brought to a greater degree of tension than when it came from the registering machine, so that a weight being put upon the strand before it breaks, it lengthens as much as it had contracted before, and when it breaks the whole snaps together." He says the patent rope, upon an experiment he tried, bore a weight of 17 ton, 5 cwt. and 1 quarter, and that a rope made in the common way of the same materials bore only 8 ton, 13 cwt. 1 quarter, and 4lb.; and he says the patent rope broke all at once, and the old-fashioned rope snapped on the outside first, then the next yarn, and so on to the centre. He says that is a most important improvement. He says he should have no difficulty in constructing the necessary machinery for making a rope upon Mr. Huddart's plan by looking at the patent and the specification. That is material to shew that the specification is sufficiently explicit to enable a person of skill in the subject, upon reading it, to accomplish the purpose it professes to execute.* Says, if this is made upon Mr. Huddart's construction, the yarn that is on the outside at first will be the outside throughout the whole length of the strand, and will be the longest yarn; the second shell will be the next longest, and so on

* Some rope produced as coming from defendant's manufactory.

to the centre, which will be the shortest. He says, I know of no other mode but Mr. Huddart's for producing this effect, and in proportion as that is deviated from, the strands will be worse: this exhibits to the eye that regular gradation of length in the different shells, which he should expect to find in Mr. Huddart's invention. The external yarn is two inches longer than the piece of strand; the second is somewhat shorter than the first, and taking a yarn out of the third, he says, that is half an inch shorter than the second; and taking a yarn out of the centre, he says, it is a little longer than the strand, owing to the setting up; and the result he draws is, that he believes this to be made upon Mr. Huddart's method. And I should state that this is certainly what is called *prima facie* evidence of its having been made by that method, when one sees it agree in all its qualities; when it is produced with a rope actually made upon Mr. Huddart's plan, it is *prima facie* evidence, till the contrary is shewn, that it was made upon his method, and therefore as against him it should seem, supposing this patent in full force and a valid one, it is reasonable, fair evidence, in the absence of contrary evidence, to presume that it was made in that way. There is certainly great weight in the observation of the counsel—Am I to come forward and divulge my mode of making rope, from which I reap a great advantage? Whether it was necessary to have gone that length in proof, does not appear; persons might have been called upon who might not be privy to the making of the strands in the small room; however, whether it puts him to inconvenience or not, the question is, whether it is *prima facie*, probable, presumptive evidence, in the absence of evidence on the other side; and it is a competent ground for you, if you think the facts bear you out, to form that conclusion upon. Then a letter is read, threatening to bring an action, and insisting upon seeing the manner in which the manufacture was carried on. The answer to that letter is received verbally. Mr. Rennie put it down in writing: he says, after delivering the letter to Mr. Grimshaw, I asked him to shew me those parts that he did not generally shew. He refused, because he did not shew them to others, and because there were several partners to be consulted. He says, I am certain, according to my judgment, that the specimen of the rope sold to Mr. Walker is made upon

Mr. Huddart's principle. I know of no other mode but that mentioned in his specification, in which it can be done in the perfect manner that this is done; there might be another mode without the perforated plate, by which it might by chance be done; but with it, it will be done with certainty. Upon his cross-examination, he says it would be a lucky hit, if such a rope was made without the perforated plate; it could not be done otherwise than by chance. He says he thinks this has been set up, or hardened up, according to Mr. Huddart's method. He says he has not seen a model of the machine of 1793 that he recollects; and no model, to be sure, has been shewn us of the patent obtained in that year. The object of the patent is a more equal distribution of the strain upon the yarns: each yarn is wound round a separate bobbin. Now the object of this patent, and to be sure the objects of the two patents are substantially the same, both of Mr. Belfour and Mr. Huddart; but it does not follow, that because the ends are materially the same, it is thereon open to the public. It has happened to me in the same morning to give, as far as I was concerned, my consent to the granting of three different patents for the same thing; but the mode of attaining it were all different, and I thought I was entitled to receive them. He says the object of the patent was a more equal distribution of the strain upon the yarns; the bobbins are ranged in a frame at one end of the rope-yard, and at the other end is the winch that turns the bobbins; the rope-walk is longer than the strand. The desideratum in rope-making was to keep the yarns separate, and in a certain state of tension before they were taken up into the rope; the twist in the rope-walk commences at the winch; if the yarns were all kept in a state of tension, none of the bobbins would render more than is wanted at the twist; at the superficies more of the yarn will be rendered than the inner part. I suppose this model* is something like it, but the person who made it does not seem to have understood Mr. Huddart's patent. There is a range of bobbins; a spindle goes through the bobbin, and as they render the yarn, the bobbins revolve upon the spindles: it became necessary, in order to create an equal tension, that the revolution in the

* A model produced in court on the part of the defendant.

centre should be retarded by something, and this spring is adapted. You will attend to this description of the spring, which is contended on one side as a material part of the invention, and which made a part of Mr. Belfour's invention before. He says, this spring is fastened to an arm of wood, by means of a screw and nails, or otherwise, the screw works in the square part of the spindle, by means of which the spring may be made stronger or weaker, as requisite; the other end of which resting upon the globular part of the head of the bobbin, framed for that purpose, to regulate the tension of the yarn. That is one of the modes Mr. Huddart points out: he says, without springs, or something equivalent, his mode would be defective. Therefore, according to him, he thinks springs to produce tension so necessary to Mr. Huddart's mode, that it would be ineffective without them. He says, in Mr. Huddart's specification, a part of his invention is a rail, which the yarns pass over to keep them clear; the next thing is the register, which is perforated with circular ranges of holes, and may be made of wood or metal; the tube must be of metal, made in two parts, longitudinally, of thin steel, of a spring temper. The spring in that model of Mr. Belfour's retards the revolution of the bobbins, as the spring in Mr. Huddart's retards his. Mr. Belfour's separating machine is formed by upright rails, with cross bars: Mr. Huddart's is formed upon the same principle; the notches in the top minor keep the yarns separate, but for a different purpose from what Mr. Huddart's does. He says the spring-tube makes the best rope; he thinks the defendant's rope is not made with a spring, but with a solid tube. So that, he says, there is a difference with respect to the tube, that that which is produced as a violation of the plaintiff's invention was not done by a spring, but a solid tube; and the patent is here taken out for a spring tube, consisting of two parts; if, therefore, it was confined merely to the tube, according to the evidence of this man, it would be made by a different tube to that stated in Mr. Huddart's specification. Upon being re-examined, he says, although a rope may be made without some part of Mr. Huddart's specification, I think the manufacture could not be carried on without the plates, the concentric circle of holes, with the same certainty as with. He says he knows the top minor, and

has made pieces of rope with it. I do not think the rope produced as coming from Grimshaw's manufactory could have been made with Captain Huddart's plate joined to the top minor; nor do I think the top minor would be of any use at all joined to the register. He says the top minor has no important tendency to keep the yarns in their stations, but rather throws them out of their stations. He says you may, by chance, by the top minor make as good a rope as by the old mode. I have made experiments, and found that the old rope carried more by a fourth than Mr. Belfour's; but in other experiments Mr. Belfour has approached very near the common mode. The larger the rope, the worse it is: in the distribution of the yarns by the cogs, they get twisted and thrown into confusion; if the tube was put on afterwards, it would make the confusion still greater. Then a rope made upon Mr. Belfour's plan was produced.

Thomas Thornthwaite says, this rope* was manufactured with the top minor: it was fairly manufactured by Mr. Belfour's specification. Now, I doubt whether that was a fair trial of the experiment; for he says, we had bobbins such as those from which the yarn passed off with equal tension, but we had no springs to regulate the tension. How it could be a fair experiment, leaving that out, I cannot tell: it does not seem to me a fair trial of Mr. Belfour's mode; try it in all its parts, or the experiment is not fair.

Mr. Rennie is called up again, and he dissects the piece of rope: he takes an outside strand, and opens it; the yarn is sometimes inside and sometimes outside; he says that never would happen by Mr. Huddart's mode. He says, I consider the bobbin as a matter of course; it is of universal use in all manufactures that consist of threads; the mere bobbin is like lead or iron, but the application of the bobbin with a spring to it appears to me to be a material part of an invention for making ropes. He then dissects a strand of Mr. Huddart's: the outside yarn keeps its place throughout, and is longer by six inches than the strand; the second shell is not so long as the other by about an inch and a half, and so on to the centre yarn, which is the same length with the strand.

His Lordship then recapitulated the evidence that had

* Some rope produced in court by plaintiff.

been adduced as to the value and utility of Captain Huddart's mode of making ropes ; and said, no doubt, by whomsoever it was effected, this improvement is a most important one in the manufacture of cordage ; but it is material for your consideration, whether it be a new invention, and if it be a new invention, whether this person, in taking his patent, has embraced within it, as essential parts, any thing which was a part of a prior invention communicated to the public before, and to which therefore he had no right to any benefit. On the part of the defendant they call no witnesses, but they say this is not an original invention, and if it is, there is no proof that we have violated it. It is no matter that the two patents profess the same object ; the end proposed in Mr. Belfour's invention is to improve the manufacture of ropes and cordage, by making every yarn, employed in the composition thereof, bear its proper and equal proportion of the stress. The description of the invention of Mr. Huddart is a new mode or art of making great cables and other cordage, so as to attain a greater degree of strength therein, by a more equal distribution of the strain upon the yarns ; the one is a more equal proportion of the stress, the other a more equal distribution of the strain. As to the bobbins, they are not worth mentioning ; the springs and the tube are the things in which it should seem the principal originality of the invention consists. It is contended that the springs are not an essential part of the invention : if they are enrolled as an essential part, whether they are so or not, it would certainly go to his patent, because no deceptive things are to be held out to the public ; those that are material are to be held out as material ; according to the evidence of Mr. Rennie, they are material. He considers that they are material to regulate the tension. Mr. Huddart points out that his mode would be defective without springs. I will read to you first Mr. Belfour's, and then Mr. Huddart's. Mr. Belfour states how the end is proposed to be answered : he says, I have introduced four springs into each reel, which springs are marked L, and should be made of iron or steel, about two inches and a half in length, one-fourth of an inch in breadth, and one-eighth of an inch thick in the middle, and smaller towards each end ; two of these springs are fixed into each end of the barrel of the said reel in the inside ; one end of each spring is fixed

fast to the barrel of the reel, the other end is moveable, and is governed by a screw marked M, which, by being turned towards the right, closes the two ends, and thereby fixes the reel faster to the spindle; or being turned the other way, opens the two ends, thereby allowing the reel to move more freely. According to the greater freedom of the motion of the wheel, or the retardation of the wheel, the greater or less tension is produced. Now Mr. Huddart's specification is this:—At K a spring is fixed to the wooden arm, by means of a screw and nails, or otherwise the screw works in the square part of the spindle, by means of which the spring may be made stronger or weaker, as requisite; the other end of which, resting upon the globular part of the head of the bobbin, formed for that purpose, to regulate the tension of the yarn in drawing it from the bobbin, whilst the spindle is turning in registering the strand. Here, for a moment, let us take our stand: the same end appears to be produced, according to my understanding, by the one and the other, to regulate the tension; now, if it is a spring to regulate the tension of the yarn, which is essential to be regulated, it does seem to me, but it is for your judgment to say whether it is a material part of the invention; if it be a material part of the invention, and relied upon as such, as it should seem it is by both, and if it is the same, then that which has been communicated by Mr. Belfour, Mr. Huddart cannot take the benefit of. Then there is another matter, with respect to the tube. Mr. Belfour says various other methods may be substituted for the purpose of preventing the strand from twisting, until it has received that position the workman wishes, such as pieces of wood, with holes bored in them; small machines, divided in a similar manner, or something like to the separating machine before described; or by the external application of a ring or other circular instrument; or any other shape so as to press upon the strand, and prevent its receiving an improper twist, to serve the purpose or intention of the top minor; for unless the strand is regulated in the twist, and kept exactly in the position in which it is to remain, the good effects proposed by this invention will be in a great degree defeated; therefore it is not of any consequence in what manner it is so regulated, so long as that point is accomplished. Now, what Mr. Huddart says

*Two common
principles of contrivance
to effect a given end
consisting in two
themselves different
plans, evidence of
distinct identity*

upon it is this:—This disposition of the yarns is necessary previous to their passing through the cylindrical tube of metal, in which the strand is compressed and formed. He says the tube compressing the yarns, and confining the outer shell to its proper figure, which outer shell compresses the next, and so on to the centre, there cannot be any crossing of yarns, or change in situation: but the whole strand formed close and compact, and no more yarn required from the bobbins than is necessary, according to the situation of the shells, or their distance from the centre. Now, the tube does seem to me, with submission to you, an important difference from the mere circle through which it passes, because it keeps it in a degree of confinement for a greater time, and more certainly obtains the end pointed out—in Mr. Belfour's specification, the same end is to be attained; and had the patent been taken for that to be done by a tube, which was before done by a ring or circle, I should have thought the patent good, for that is a distinct substantive invention. It will be for you to consider whether that which is pointed out in Mr. Belfour's specification will be broke in upon by a tube, which keeps it in a state of confinement for a longer time, and attains the end with more certainty. It is for you to say, for that is the substance of the case as to the invasion of the patent, whether any essential part of it was disclosed to the public before. If you think the same effect in substance is produced, and that the springs in Mr. Belfour's, by producing tension, obtains a material end in the making of ropes in the way proposed, and that it is in substance the same as in the other, this patent certainly must, upon principles of law, fall to the ground. If you think it is not the same, or if you think it is not material, though we have had the evidence of Mr. Rennie upon its materiality—if you think this patent has been obtained for a new invention, carried into effect by methods new, and not too large beyond the actual invention of the party, in that case the patent may be sustained; but if you think otherwise, in point of law or expediency, the patent cannot be sustained.

Verdict for the plaintiff.

SMITH v. DICKENSON.

In the Court of Common Pleas, 10th February, 1804.

THIS was an action in assumpsit. The declaration stated, that before the making of the promises, &c., the plaintiff had contrived various articles in the business of a saddler, which he fully conceived to be new and valuable improvements; and in particular he had before then invented a certain spring apparatus for girthing saddles, and at the time of making the promises, &c., the plaintiff was desirous of obtaining his Majesty's letters patent for the sole use and benefit of the said invention for a certain term, to be specified in the said letters patent, of which the defendant had notice. And whereas the defendant was desirous of being made acquainted with the nature of the said invention, in consideration of the promises, and also in consideration that the plaintiff would communicate the nature of the invention to the defendant, the defendant undertook that he would not avail himself or take any advantage of such communication under the penalty of 1000*l*. It then averred that the plaintiff confiding in the defendant's promise, did communicate to him the nature of the said invention; but that the defendant not regarding, &c., but intending to injure the plaintiff wrongfully, &c., disclosed and made known the nature of the said invention, and obtained his Majesty's letters patent for the sole use and benefit of the said invention for fourteen years, as being the invention of him, the defendant, and thereby availed himself and took an undue advantage of the communication made to him as aforesaid; whereby the defendant became liable to pay a thousand pounds, according to his agreement, yet that the defendant had not paid, &c.

The second count was the same as the first, with the addition of an allegation that the plaintiff sustained special damage by being prevented from taking out letters patent in his own name, and thereby lost great profit.

Plea non assumpsit.

The cause was tried at the Guildhall Sittings after Michaelmas Term, 1803, before Chief Justice Lord Alvanley, when it was proved that the plaintiff having invented the spring apparatus mentioned in the declaration, the defendant called upon him, and expressed

himself extremely desirous to be informed of the nature of the invention; that the plaintiff communicated the invention to the defendant, upon his signing the following agreement: "Thomas Smith, of No. 119, New Bond-street, saddler, having contrived various articles in the above branch, which he fully conceives to be new and valuable improvements, Mr. Robert Dickenson, of No. 55, Long Acre, being desirous of being made acquainted with one of the above-mentioned improvements, which Mr. Dickenson fully comprehends, under the title of spring apparatus, to answer or produce the same effect as those for which Mr. Robert Dickenson has already obtained the king's patent; he, Robert Dickenson, doth hereby promise and bind himself not to avail himself or take any advantage of such communication, under the penalty of breach of honour and 1000*l*." That the defendant immediately on getting this information, entered a caveat against any person but himself taking out a patent for the above invention, and shortly after took out a patent for it in his own name, though it had been agreed between him and the plaintiff that they should jointly share the profits of the invention, but that the patent should be taken out in the name of the plaintiff; that the defendant being unable to make out a specification in order to maintain his patent, obtained another interview at a house in Soho-square with the plaintiff, at which it was agreed that they should be jointly concerned in the invention, the plaintiff being employed to make all the saddles; and that the patent which had been taken out in the name of the defendant should still continue in his name. That upon the faith of this agreement, the plaintiff assisted in making out the specification, which was duly enrolled. That the plaintiff shortly afterwards finding the defendant was using the patent for his own benefit solely, wrote to him upon the subject, and received from him the following answer:—

"Sir, I am unconscious of any contract at present between us, nor can Mr. N. or Mr. F. (two persons who had been at the interview when the specification was drawn out) help me to the recollection of any, although you refer me to them for that purpose. The two inventions for which I have obtained patents are my own inventions. Prior to my giving you a paper not to practise any invention you might communicate, I had deposited a drawing in the hands of a friend, and had a workman actually employed in making the articles for which my last patent is obtained, and this drawing was deposited for the purpose of proving, should it be necessary, what my design and invention consisted of,

prior to any communication with you, lest even if it should be the same, I might still go on to obtain my patent. How far your invention resembles mine is of no consequence—I went on with my own. Your communication had in it nothing new, therefore I do not consider myself as using your invention, but my own."

Upon this case it was objected by the counsel for the defendant, that the gravamen laid in the declaration did not correspond with that which was in evidence before the jury; but his Lordship refused to nonsuit the plaintiff, and the jury found a verdict for the plaintiff for 300*l.*, the defendant agreeing to assign the patent to the plaintiff for the remainder of the term at the defendant's own expense. The plaintiff was to be at liberty to enter a verdict for 1000*l.* if the court should be of opinion that the sum of 1000*l.* mentioned in the agreement was in the nature of liquidated damages, and not a penalty; and if the court should be of opinion that the defendant had not taken an undue advantage of the plaintiff a nonsuit was to be entered. Accordingly a rule *nisi* for a nonsuit on the one side, and for increasing the verdict on the other, having been obtained on a former day,

Sergeant Best now contended that the gravamen in the declaration was supported by the evidence; for although the plaintiff by his conduct and agreement, at the time when he assisted in making out the specification, had waved any remedy for the plaintiff's misconduct in fraudulently obtaining the patent in his own name, yet that he had only waved it upon the condition of the defendant's fulfilling the agreement which was entered into at that time; that the defendant having now renounced that agreement by his letter, the plaintiff's remedy revived for the defendant's original misconduct in obtaining the patent in his own name. He next insisted that the sum of 1000*l.*, stipulated by way of penalty, was in the nature of liquidated damages, and consequently the plaintiff was entitled to have the verdict entered for that amount.

But the court expressed themselves clearly of opinion that the word "penalty" used in the agreement, effectually prevent them from considering the sum mentioned as liquidated damages.

Sergeants Shepherd and *Bayley*, on the other side, urged that the plaintiff's action could not be maintained on this declaration, since it was evident that

whatever injury he might originally have sustained by the defendant's conduct in taking out a patent, yet that having subsequently assented to that act of the defendant, he could not now make it the ground of an action, but ought to have declared upon the new agreement; and that in fact the plaintiff could not sustain any damage by the mere act of the defendant in taking out the patent in his own name; for that without the plaintiff's subsequent assistance in making out the specification, the patent would have been of no avail.*

Lord Alvanley, Chief Justice.—This is an action for the breach of an agreement; and the questions are, first, whether the evidence proved that the defendant took any undue advantage of the communication made to him by the plaintiff; and, secondly, whether the advantage taken by the defendant, supposing it to be an undue advantage, corresponds with the breach laid in the declaration? It appears that the defendant came to plaintiff in order to obtain a knowledge of his invention, and was extremely anxious that some terms should be entered into between them; and at the same time he agreed not to take any undue advantage of the communication made. It was then understood that the patent was to be taken out in the name of the plaintiff. Let us see, then, what was the first use which the defendant made of his knowledge, there being at that time no contract in existence between them respecting any partition of profit in the invention. He immediately enters a caveat to prevent any other person but himself from taking out a patent. This was an improper use made of the discovery, upon which the plaintiff might have brought an action, though it is uncertain what damages he could have recovered. The defendant then obtains a patent in his own name, but being unable to make out the specification, he tempts the plaintiff, under pretence of offering him certain advantages, to complete the discovery. This was only a continuation of the same fraud; for as soon as he has made

* This patent appears to have been treated as a valid patent by the counsel and by the jury at the trial, and their Lordships gave no intimation that they considered the patent invalid, although the patentee was not the inventor. The validity of the patent was not strictly in question, but the jury having made the assignment of the patent part of the damages in the cause, one would have anticipated that the judge at the trial would have prevented the jury imagining that there was any value in the patent had his Lordship considered it invalid.—W. C.

out his specification from the information afforded him by the plaintiff, he refuses to execute any articles of partnership, alleging that he had obtained the patent upon a specification previously deposited in the hands of a friend. It is urged that the plaintiff agreed to release all breach of the first agreement not to take any undue advantage of the communication, upon the defendant entering into certain terms, and that the defendant is only guilty of a breach of those terms. Possibly those terms never were reduced into writing, and yet the plaintiff is called upon to waive his remedy on the first agreement, without any power of enforcing the second. It does appear to me, however, that although, had there been a formal release of the remedy under the first agreement, he must have been barred; yet as the patent was allowed to remain in the name of the defendant only, upon the performance of certain conditions, the performance of which has not been shewn, the plaintiff may resort to the breach of the first agreement, of which the defendant appears by the evidence to have been guilty. Indeed, the defendant's letter to the plaintiff puts the question out of all doubt, for he there insists upon the invention as his own, and repudiates any subsequent agreement, and justifies taking out the patent in his own name as for an invention of his own. If a man give a bond for the performance of covenants; and the covenants being broken, the obligee agrees not to put the bond in suit upon the undertaking of the obligor to do certain things, and then the obligor refuses to perform his undertaking, can it be said that the bond is gone? Certainly not. So in this case, the subsequent agreement was a conditional agreement, and as the conditions were not performed, the action may be maintained upon the original agreement.

Mr. Justice Heath.—I think the agreement upon which the declaration is founded is a subsisting agreement; and that the defendant, by entering the caveat, and taking out the patent in his own name, committed a breach of that agreement, there can be no doubt. It is insisted that the plaintiff waived the breach of this agreement, and certainly he might have done so: but I think that his conduct has been very well explained; for it appears that the defendant, with respect to the second agreement, was practising a mere fraud upon the plaintiff,

and amusing him by a sham treaty for a partnership which he never intended to carry into effect. It would be very hard to refer the plaintiff to the second agreement, of the terms of which there is no evidence, but only of a treaty for an agreement. It appears to me, therefore, that the first agreement was not waived by the treaty for the second agreement, which the plaintiff was induced to enter into by the fraud of the defendant.

Mr. Justice Rooke.—The only question is, whether the plaintiff, by the strict rule of law, is prevented from recovering for the breach of the first agreement; for there can be no doubt that the first agreement was broken. That fact was sufficiently proved by the defendant entering the caveat, and taking out the patent in his own name, immediately after the disclosure of the invention; and that breach appears to me to be both well alleged and proved. It is insisted, however, that the plaintiff must be nonsuited on the ground of the second agreement: but before the defendant is entitled to nonsuit the plaintiff on the ground of the second agreement, we must prove that agreement; whereas his own letter disavows all agreement with the plaintiff upon the subject of the patent, and insists upon his own right to the invention.

Rule discharged.

TAYLOR v. HARE.

In the Court of Common Pleas.—May 20, 1805.

THIS was an action for money had and received, which came on to be tried before the Lord Chief Justice at the sittings after last Hilary Term, when a verdict was found for the plaintiff for 425*l.*, subject to the opinion of the Court upon the following case:—

On the 12th of September, 1791, the defendant took out a patent for the invention of an apparatus for preserving the essential oil of hops in brewing. By articles of agreement, dated 5th November, 1792 (which were set out at length at the end of the case), and made between the defendant of the one part, and the plaintiff and

Freeman Harford, deceased, his late partner, of the other part, reciting the defendant's patent, and that it gave him the sole power, privilege, and authority of using, exercising, and vending his said invention for fourteen years, the defendant granted to the plaintiff and his said late partner the privilege of making, using, and exercising the said invention for the residue of the said term, and in consideration thereof, the plaintiff and his partner covenanted that they would secure to be paid to the defendant, during the said term, an annuity of 100*l.*, and would give their bond for that purpose, and a bond was accordingly given, conditioned for the payment of the said annuity. The plaintiff and his partner used the apparatus (for the making of which they paid a distinct price) from the date of the agreement until the 25th of March, 1797, and during all that time regularly paid the annuity to the defendant. The defendant was not the inventor of the invention for which he obtained his patent. The invention was not new as to the public use thereof in England, but it was the invention of one Sutton Thomas Wood, and had been publicly used by him and others before the defendant obtained his patent; but the patent had never been repealed. The amount of the annuity which they had paid was 425*l.* If the Court should be of opinion that the plaintiff was entitled to recover back the money which was paid on the bond, the verdict was to stand; if of a contrary opinion, a nonsuit was to be entered.

Mr. Sergeant Bailey for the plaintiff.—To support the present action it is not necessary to prove that any imposition has been practised. If it appear that the plaintiff has received nothing in return for the money which he has paid, he is entitled to recover back his money in this form of action. He was induced to pay his money upon the supposition that the defendant had the power of communicating some privilege. But as it now appears that the defendant's invention was not new, and that the patent was therefore void, the consideration upon which the plaintiff paid his money has wholly failed, and the plaintiff has derived no benefit whatever. Where an estate is conveyed, the vendor professes to convey nothing but his title to that estate; but here the thing itself which was the subject of the agreement had no existence. It was the understanding of all parties that the defendant was entitled to a patent-right, but it now turns out that they

were mistaken; the plaintiff, therefore, is entitled to recover the money which he has paid under a mistake. He had a right to make use of the invention without paying any thing for it. The defendant has no right to the annuity, and indeed he has already failed in an action on the bond in which the validity of the patent was put in issue.*

Mr. Sergeant Cockell for the defendant was stopped by

Sir James Mansfield, Chief Justice.—It is not pretended that any action like the present has ever been known. In this case two persons, equally innocent, make a bargain about the use of a patent, the defendant supposing himself to be in possession of a valuable patent-right, and the plaintiff supposing the same thing. Under these circumstances the latter agrees to pay the former for the use of the invention, and he has the use of it; *non constat* what advantage he made of it; for any thing that appears, he may have made considerable profit. These persons may be considered in some measure as partners in the benefit of this invention. In consideration of a certain sum of money, the defendant permits the plaintiff to make use of this invention, which he would never have thought of using had not the privilege been transferred to him. How then can we say that the plaintiff ought to recover back all that he has paid? I think that there must be judgment for the defendant.

Mr. Justice Heath.—There never has been a case, and there never will be, in which a plaintiff having received benefit from a thing which has afterwards been recovered from him, has been allowed to maintain an action for the consideration originally paid. We cannot take an account here of the profits. It might as well be said, that if a man lease land, and the lessee pay rent, and afterwards be evicted, that he shall recover back the rent though he has taken the fruits of the land.

Mr. Justice Rooke declared himself to be of the same opinion.

Mr. Justice Chambre.—The plaintiff has had the enjoyment of what he stipulated for, and in this action the Court ought not to interfere, unless there be something *ex æquo et bono*, which shows that the defendant ought to refund. Here both parties have been mistaken;

* *Hare v. Harford and Taylor*, ante, p. 180.

Taylor v. Har.
Harmar v. Playne.

the defendant has thrown away his money in obtaining a patent for what was not his own invention: not so the plaintiff, for he has had the use of another person's invention for his money. In the case of Arkwright's patent, which was not overturned till very near the period at which it would have expired, very large sums of money had been paid; and, though something certainly was paid for the use of the machines, yet the main part was paid for the privilege of using the patent-right, but no money ever was recovered back which had been paid for the use of that patent. I am, therefore, of opinion, that judgment of nonsuit should be entered.

Judgment of nonsuit.

HARMAR v. PLAYNE.

In the Court of Chancery.—June 30, 1807.

A PATENT had been granted to the plaintiff in the 27th year of King Geo. III., for a machine for the manufacture of woollen cloths.* In the 34th Geo. III.,

* "The specification was in the following words:—

"To all to whom these presents shall come, &c.—Now know ye, that in obedience to the said letters patent, and to the aforesaid proviso or condition therein contained, I, the said John Harmar, do by these presents particularly describe and ascertain the nature of my said invention, for a machine for raising a shag on all sorts of woollen cloths, and cropping or shearing them, which together come under the description of dressing woollen cloths; and also for cropping or shearing fustians, referring to the drawings in the margin of these presents, which I explain as follows:—

"A, a shear-board, with a small curve, B; round A, a frame is erected, falling a little before its level, with pillars at each corner, framed both at top and bottom, as in the drawing. C, a loose frame on which E rides. D, the blocks of wood, to give an inclination to C; this inclination is nearly in the proportion of an inch in a foot. E, the shears, as used by croppers, with their bobs or levers, which by a line work them. F, the screws on C, to hold a rail, extending from one to the other, to steady the working blade of E. G, the harness, in two parts, and is fitted to each end of the riding blade of E; being hollowed to the bow, and grooved, to admit both ends of the said riding-blade, and fastened on with screws and bands; it is farther composed of six wheels in each part, two at each end, one so fixed as to roll in the under side of C, and to keep C in its due course: the other eight are fixed in two narrow frames, having four strong screws rivetted to each frame, yet so

another patent was granted for improvements upon that machine. Upon a motion to dissolve an injunction,

as to turn; these, passing through their nuts fixed in the harness already named, being turned, raise or lower the edges of *e*, as may be found necessary to the due performance of their work. *h*, the rod, carrying a small crank at each end, with a small pulley. *i*, the straps of wood, fitted at one end to the handle of the cranks of *o*, and terminating by mortises and tenons, with two small beams, where they are fastened with pins, with liberty to work. *k*, two pillars, with apertures on the top, and situated at both ends of *A*. *L*, two small beams, communicating at one end with *i*, and passing through the apertures of *k*, where they are fixed with pins, on which they work, but so as to shift on occasions, to give the necessary vibrations to their extremities, to advantage the cranks, that they give the necessary pressure on the levers of *E*. *M*, a rail, extending the length of *o*, with a small aperture down the middle, and is fixed by screws at each end to the extremities of *L*, which project to the right of *A*. *N*, a small frame, with four small friction pulleys fixed in it, and a tongue coming through the aperture of *M*. *O*, a line, communicating from the tongue of *N*, to the lever of *E*: when, therefore, the small pulley from the letter *N*, gives motion to its cranks, this acting upon *i*, *L*, *M*, *O*, and the lever or bob of *E*, the blades of the shears close, for the purpose of cropping, that the shears may produce the proper effect, the one giving a progression. *R*, an axis, carrying a small cog-wheel at one end, and a pulley, with five grooves in it, as answering to another, that stands inverted on *S*. *Q*, another axis, carrying two different sized cog-wheels; the larger of which is worked by the small cogs on *R*. *R*, the third and last axis in the progressive frame of wheels and pulleys, carries a large cog-wheel and a pulley, with two grooves in it, and is worked with the small cog-wheel on *Q*, as represented in the drawing. *S*, an axletree, with pulleys, for bands to the first movement. *T*, the bands, communicating from the pulleys *N*, to *Q*, where they are fastened by straps and buckles. When, therefore, the pulley on *S*, gives motion to *R*, and *Q*, the pulley on *R*, gives progression to *E*, and, by varying the bands into the different grooves of *R*, *E*, is given a necessary progression in cropping or shearing of cloth or fustian.

" For stopping the Works on all necessary occasions.

" u, the strap from *x*, communicating, by *w*, to one of the steps of *U*. *w*, a frame, turning on its supporter near one end, to increase its power as a lever fastened with liberty for a small movement. *x*, a lever crossing the upper end of *u*, and by *u*, acts upon *w*; so, by pressing down or raising the extremity of *x*, the pulley on *u*, rises or sinks, and *E*, by means of *z*, is wholly stopt. *y*, a lever, which turns on a swivel near one end, and being attached by a band to that shears which rides on the other part of *c*, by its action thrusts the extremity of *x* from under its pin, and so *E*, stops itself. *z*, the bands which communicate from both sides of the fulcrum of *x*, and are fastened to the pulley on *R*, in contrary directions; therefore, the movement, *x*, throws out, or in the cogged-wheel on *R*, and *E*, stops, or is put in progressive action. *a*, the rollers, to which *b* are attached, in different directions. *b*, the bands for the management of *E*. *c*, the small pulleys, through which *b* pass to *Q*, and are fastened, by bands and buckles, in the direction of *b*, on *a*; that,

obtained by the patentee, an objection was taken to the specification under the latter patent; as describing

by turning *a* to the right or left, *z* may be moved to any situation on *c*. *d*, a narrow frame, extending the length of *c*, carrying a lever fastened at one end, to which a rope is attached, as in the drawing. *e*, the ropes, communicating from each corner of *c*, to the extremities of *d*, that, by the pressure of the lever of *d*, *c*, may be raised, to give liberty to move *z*, to all necessary purposes. *f*, a rope, which, being fastened to the extremities of *x*, and communicating with *L*, when *z*, moves *x*, the weight on the other end of the rope raises the extremity of *x* to a convenient height, and keeps *L*, from pressing down the bob, to the damage of *z*.

" For raising a Shag.

" *g*, a table is erected, and hath considerable inclination from side to side, the cloths passing over it, as in the drawing. *h*, two planks, fluted or guttered from end to end, and fixed at each end of *g*. *i*, a frame, nearly in breadth with *g*, and falling within *h*, at both ends, grooved in the inside of both the said rails, and extending from end to end. *k*, a wheel, attached to each end of *i* by screws, with straps of iron, and which work in the gutters of *h*. *l*, a small frame, carrying a pulley at each corner, which rolls within the grooves of *i*; this has also a door to it, with handles, or small frames, set with teazles on the under side, and turns on hinges, and is fastened with a screw or cotter. The said handles are fixed in their places by springs, with hooks to them at the one end, and the other falls into notches. *m*, a strong rod, with cranks and pulleys, as *n*, in shearing, save only a pulley more, with cranks much larger than *n*, and the pulley that carries them is of a considerable diameter. *n*, rails, with a working joint in them, on that side of *o* next to *m*. *o*, pillars, with a pulley fixed in each, at a convenient height, that the action of the crank may be regular, and to lessen the friction of *a*. *p*, two screws, fastened at the foot to *i*, and passing through *n*, and, by the respective movement of feathered nuts on each side, are varied to the inclination of *g*. *q*, springs, with bands and buckles, which communicate with the short rails of *i*, and are tightened sufficient to raise it; when *k* has passed down the lower gutter of *h*, then the springs cease to act, and, letting *i* fall, the action is continued for raising the shag on woollen cloth. *r*, the rollers, situated before and behind *g*, with the cloth passing from one to the other. *s*, the roller above the table, to ease the passage of the cloth, and keep it better to the work. *t*, the frame of wheels for progression, as in shearing, except that the first axis in the frame has but one groove; on the second is a crank-wheel; and the third is grooved as *p*, in shearing, but of a larger diameter. *u*, a pulley, with five grooves, answering to that on the last axis of *t*; these standing in contrary directions, by changing the band into its different grooves, the cloth keeps nearly regular in passing through the work. *w*, the line communicating with a frame, as *d* and *e* in shearing, and, by turning *x*, *l* is raised to and from its work. *x*, an axletree, with its lever, cogged-wheel, and stop. *y*, four cog-wheels, in a frame, as in shearing; they act by the axletree of the first, being mortised into the second axletree of *t*, progressive; the third or last axis carries a wheel, with small projections on one side, to catch the

the machine* with the improvements as one entire machine the subject of that patent; not distinguishing

end of a hammer, which, falling on a bell, tells nearly what cloth has passed through the work, that the handles in *l* may be turned or changed. *z*, the beam, worked by the crank-wheel on the letter *z*.

"Fig. 2, the bands fixed to the extremities of letter *z* and *l*, acting alternately on *l*, that the shag may be regularly raised from one list to the other. 3, the weights at each corner of *h*, to keep *l* to its work, and to act against *x*. 4, the pulley-wheel, to carry the cranks, and communicates with the first movement. 5, the pulley, that carries the progressive wheels for raising the shag, and the regulator, *y*, for stopping the work for raising the shag, or putting it in motion: *x*, *u*, *w*, in shearing, acting on one of the steps of *h*, and so loosening or tightening the band that communicates with the first movement, stops the work for raising the shag, or puts it in motion, or by placing two pulleys in a narrow frame, through which the band passeth from 4 to the first movement; this frame being fastened, within a little of one end, with pins, the raising or sinking the other, tightens or slackens the band, and the work of raising the shag stops or goes forward.

"And I do declare, that the said invention is to be performed, as to the cropping or shearing part, in manner following, that is to say; the cloth being put to work *o*, as in the drawing, and across the surface of *Λ*, and the edges of *z* being brought to the exact angle of *Λ*, either by the screws on *o*, or on the feet of *a*, that extremity of *x*, which projects to the right hand of *c*, being pressed down, the pulley of *h* is tightened, and the pulley on the extremity of *s*, which communicates with the first movement, puts the cranks of *h* in motion, and also the progressive wheels; so that *u*, by *o*, acting upon the lever or bob of *z*, the working goes on; when the foremost shears reach the list, *x* is thrown from under its pin by *y*, and *z* wholly stops, when, by a pressure on the lever of *d*, *z* is raised from its work, and, by the turning of *a* to the right and left, the shears are shifted from their work, to both ends of the board; when the cloth is shifted by the pressure of the lever of *d*, *c*, on which *z* rolls, is raised, and, by *u*, turned left and right, *z* is shifted to its situation, proper to begin the work again; which is done by the pressure of the extremity of *x* to the under side of its pin. And for the raising the shag, the cloth is wound on a roller, and across the table or board, as in the drawing; when, by a band from fig 4 to the first movement, putting the cranks in motion, *l* raiseth the shag, and when *y*, by its bell, directs the handles, the small teazle frames in *l* are shifted or turned, the work being stopped for this purpose, as in shearing, *x*, *u*, *w*, acting on one of the steps of *h*, as above described, or by placing two pulleys in a narrow frame, through which the band passeth, as above also described; and, as the cloth passeth over *g*, the band of *u* is changed into its different grooves, at convenient times, that the shag may be regularly raised.—In witness, whereof, &c.

"JOHN HARMAR."

* "The specification of the second patent was as follows:—

"To all to whom these presents shall come, &c.—I, John Harmar, of Sheffield, send greeting. Whereas his Majesty, by his letters patent, dated the 29th day of March, in the thirty-fourth year of his reign, hath granted to me his special licence, &c., that I, my executors, administra-

the original machine from the improvements. The defendant's answer admitted that the improvements

tors, and assigns, at all times during the term of years therein expressed, should, and lawfully might make, use, and vend the machine by me invented and found out, for raising a shag on all sorts of woollen cloths, and cropping or shearing them, which together come under the description of dressing woollen cloths, and also for cropping or shearing of fustians, and that I should enjoy the whole profit, &c., of the said invention for fourteen years from the date of the said letters patent, according to the statute, &c. And whereas, in the said letters patent, there is a proviso or condition, that if I, the said John Harmar, should not particularly describe and ascertain the nature of the said invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be enrolled in the Court of Chancery within one calendar month after the date of the said letters patent, that then the said letters patent, and all liberties, &c., thereby granted should be void.—Now know ye, that in obedience to the said letters patent, and to the aforesaid proviso or condition therein contained, I, the said John Harmar, do by these presents particularly describe and ascertain the nature of the said invention, referring to the drawings in the margin of these presents, which I explain as follows; fig. 1, a side and end view of shearing cloth from list to list. A, is the frame with its pillars, legs, and rails. B, is the cushion or shear-board, over which the cloth is extended. C, the cropper's shears in their situation for working, with their bobs or levers. D, the harness or breeches fitted to each end of the riding blade of c; at the near end is hollowed the bow of c, and at both ends fastened with screws passing through the blade, or else is grooved to admit the blade, and is fastened with wedges. It is composed of two strong pieces of plank with holes to admit screws through to nut-screws fastened to their upper surface, and square holes through which pass small pillars; other two pieces of plank are frames for wheels turning on pins (as in drawing) situated under the pieces fastened to the riding blade, here the lower ends of screws are rivetted to plates, but so as to turn, which plates are screwed to the wheel-frames; also, in these lower pieces, small pillars are fixed, which, passing through the upper pieces, steady the harness; those screws turned to right or left, bring the edges of c, to the angle of B, for the work of shearing. E, the inclined planes, down which the wheels of D, roll when the machine is working. F, is the working axle, with its rods or rails; the gudgeons of this axle rest on the cross rails of A; the axle has the inclination of B, and E, as in drawing. Its rods, fixed to the sides of it by projecting pieces, are about four inches from its centre, and the thimbles of G, ride down them to keep pace with c, in its progress. G, is the line communicating at the lower end by a thimble with the rods of F, and at the upper end with the bob or lever of C, as in drawing. H, is an axletree, with its handle, cog-wheel, and stop, fixed by stops, on which it turns, to the pillars of A. I, the lines communicating with the extremities of K at one end, and the other with H. K, levers, turning on their pins, and, by the action of X, and I, work against E, to raise c from B, for all necessary purposes. L, pulleys in their frames, to give a proper direction to I, that the turning of H may have the effect aforesaid. M, is a crank attached to the

were new, substantial, and a great saving of power; and that the description in the specification of the machine,

lower gudgeon of *r*; the crank handle has an eye in it, through which a square leg passes, against which works the lower end of a screw, the nut of which is on one side of the said eye. This screw, turned to right or left, loosens or fastens the leg in the eye at pleasure. The said leg at the other extremity has a handle where the near end of the catch, *n*, is fitted on. Now, as the leg is shifted by means of its eye and screw in that end where the handle is farther from the centre of *r*, *n* works *o* with more speed. *n*, is the catch that works *o*. *o*, is the cog-wheel of *n*, with its screw pinion on its axle. *p*, is an iron axle, with pulleys near both ends, with a cog-wheel. *r*, is a small sword, fitted into the mortise of the projection on the lower extremity of *r*, and pinned, and the other end is fitted to the crank handle of *s*. *s*, is the crank axle and pulley that carries the band which goes to the power that works the machine. The situation for *n*, as to that end that fits on the crank of *s*, is directly behind the lower end of *r*, and under the farther extremity of *s*, where the crank end of *s*, rides on a stop fixed to the farther rail of *a*; the pulley end where the stop is, rides on *x*. Now the crank, *s*, being put in motion, gives *n* the necessary vibration, and *n* works *r*, which alternately raising or falling its rods or rails by *c*, *c* works, and, to effect the progression of *c*, *r* being in a working state, *m* works *n*, and *o* works *r*, and *c* is carried forwards by *r*, and to carry *c* forwards faster or slower, as necessary. For the due performance of shearing cloth, the handle of the leg of *m*, where *n* is fitted on, must be brought nearer to the centre of *r*, for slacking, and more distant from the said centre, to increase the speed, as then *n* will take more or less teeth in *o*. Or the progression in this frame may be effected by the method described in the progression of fig. 3, under the letters *m*, *n*, *o*, *p*. *r*, the lines for carrying forwards *c* by *p*. *u*, is a projection fastened to *d*, and works against *u* when *c* is about to stop. *v*, is a rail and small sword passing through a mortise fixed to one of the legs of *a*, at nearly one end, and, by a working joint, goes up to near the extremity of *w*. *w*, is a lever, passing through its fulcrum, and pinned to the upper end of *x*; and near the other end rests on a small notch, sunk in the inside of the upper end of one of the pillars of *a*, and weighted in the extremity with lead or iron. *x*, is the step of the pulley end of *s*, and, by a small sword, goes up to *w*, on the near side of one of the pillars of *a*, through which *x* goes, and moves on a pin, and is the step of one end of *o*; and the farther side of the said pillar, where the letter *x* stands, is the step of the pulley end of *s*. Now, when *u* or *d* works against *u* or *v*, *w* is thrown from its notch, and *w*, sinking, raises *x*, and slackens the band on the pulley of *s*; then the machine stops, and *x*, raising the step of *s* on the farther side of the pillar of *a*, on the near side of it, sinks the step of *o*, and the screw-pinion is thrown out of the large cog-wheel of *r*. *y*, is a small axle on steps, fastened to *d*, with its handle and bands going to near the extremity of *z*. *z*, two small rails, with catches at their extremities, which fall into notches in *d*, to fasten both the shears of *c* together. Now, when the machine stops, by the means already described, the pressure of the handle of *y* raiseth the catches of *z*, from their notches in *d*, and the shears of *c*, are at liberty, and may be driven by the hand to the necessary situation for shifting the cloth, first turning

with the improvements, is intelligible, so that the machine could be made according to that description.

to the right, to clear them from *s*. The cloth being shifted bring the said shears of *c* to their proper situation, and the catches of *z* will fasten them; then turn *h* to the left, throwing back its catch, and the shears of *c* are brought to their work: when lift up to its notch, the extremity of *w*, and the band on *s*, is tightened, and the machine works.

Fig. 2, a side and the two end views of shearing the length-way of the cloth. *A*, the frame, with its pillars, legs, and rails. *B*, a circular cushion, or shear-board, formed to the angle of the cropper's shears, and at each end resting on steps, fixed to the top rail of *A*, to be moved round, as occasion shall require. *C*, the cropper's shears in its harness, or working position. *D*, the harness, attached to both ends of the ledger blade of the shears, *C*, as particularly described in fig. 1, under the letter *D*; but this mode of shearing requires that the strong pieces, attached by screws to the ends of *C*, should be framed together near the back of the said ledger blade, to take the weight of the ends of the shears. When the whole width of a narrow cloth is shorn, the second shear of *C* is placed behind that in drawing, and has another, *B*, for it to work upon, and *i*, to be worked by. And that part of *D* attached to the heel of *C* and letter *E*, are lengthened as described (fig. 3) under the letter *C*; so in like manner the shears are situated behind each other in taking the width of a broad cloth. Here it must be noted, as in this mode of shearing the cloth having the progression, the wheels of *D* are omitted, and pieces of wood, half rounded, supply their place. *X*, is a small frame in its steps, with its arms and lines. The situation of *X* is seen under letter *D*, fig. 3; it is attached to the heel part of the harness, as there seen by the drawing. One of the lines of *X* goes down to the working-rail of *E*, in the aforesaid fig. 3; and the other line communicates with the lever or bob of *D*. *F*, the roller, with its handle, on which the cloth to be shorn is wound. *G*, the small rollers, to guide the cloth to *B*; the middle one with swells riding on it, lighteneth the lists of the cloth as it rides forwards; the swells are moveable, for the purpose of suiting cloths more or less long-listed. *H*, the rod, cranked on every side, with the pulley for the progression, and that also which carries a band to the working power situated at the upper end of *A*, near *A*. *I*, is the thimble fitted on the crank, with the line going up to near the extremity of the bob working *C*. *K*, an axle, with its cog-wheel and stop, as particularly described (fig. 1) under the letters, *H*, *I*, *K*, *L*, and produces a like effect, and must be fixed to this figure the same as in that. *L*, the cheek to *F*, fastened by a pin at the near end, and passing under *F*, being hollowed to it, the farther extremity (being carried under *C* and *B*) having a weight suspended on it. *M*, the roller, with a cog-wheel, to which the end of the cloth is attached; and being tightened by the handle of *F*, the weight on *L* keeps it in that tight state as it is carried through the work. *N*, an iron axletree, carrying a large pulley with one groove, and a five-groove pulley with its steps, that out of sight lies under *A* on a cross rail. *O*, an iron axletree, carrying a five-groove pulley and screw pinion on steps, as in drawing, *P*, bands going from the small pulley of *N*, to the large pulley of *N*; and from the five-groove pulley of *N*, to the five-groove pulley of *O*. Now, these five-grooved pulleys gradually descend in their dimensions from fourteen inches to three

Mr. Richards, Mr. Hart, and Mr. Wetherell, in support of the motion, insisted that the specification under

inches in one, and the other may be the same dimensions, or very considerably smaller; or, it may be reduced to a pulley of three inches diameter with one groove. These five-groove pulleys stand, in respect to each other, in contrary directions. Now, when the crank by a band on the pulley on its upper extremity is set to work, the band, *n*, from the other pulley, puts *o* and *p* in motion, and carries forward *m*. That *m* may have different speed, the band of the five-groove pulleys must be shifted for that purpose to the different grooves, which give them more or less speed.

"The Stop Frame."

"*q*, the step where rides the upper end of *n*, which step at one end is tenoned into the pillar of *A*, and pinned. *r*, is a small sword, at the lower end tenoned into the extremity of *q*, and pinned; and at the upper end is mortised, so as to admit the farther end of *s*. *s*, is the lever, tenoned into the mortise of *r*, and pinned, and passing through a mortise in the pillar of *A*. Now, to stop the machine, the near extremity of the lever, *s*, must be pressed down, and that slackeneth the band communicating from the acting power to the pulley of *n*. When set a-going, the said extremity of *s* must be lifted up, and pinned there. To work this machine, put the cloth to work, as directed under letter *m*; then throw back the stop of *q*, and the shears are brought to their work; then raise the extremity of *s*, and the machine works.

"Fig. 3, a second mode of shearing cloth the length way: a side and end view. *A*, is the frame, with its pillars, legs, and side and end rails. *B*, the inclined planes, as fig. 1, under *E*. *C*, the shear-boards, over which the cloth is stretched from *n* to *n*: every shear has its board, and is placed by the side of each other, so as to take the width of the cloth; and the shears, situated for the like purpose on them, the harness, *n*, and small working frame, *E*, fig. 2, are lengthened accordingly. *D*, the cropper's shears in its harness, and bob or working lever, with *E*, fig. 2, in its proper situations, attached by the steps to the harness of *D*. *E*, the axle, with the line communicating with the bob at one end, and at the other with one of the axle rods, by a thimble, described under *F* and *G*, fig. 1. *F*, the line and thimble before named. *G*, a small axle, with its lines, levers, pulleys, &c., particularly described under letters, *H*, *I*, *K*, *L*, fig. 1. *H*, rollers for the cloth, and their cog-wheels and stops. *I*, a lever, with its catch and stop to the wheel of *H*, which is on the other side of the pillar of *A*, near the middle of it, and falls into the cog-wheel of *H*, which line communicates with the lower end of the catches on *n* and *L*, and passeth through small pulleys, fixed under the catches, on the inside of the frame, *A*, that, by the pressure of the upper extremity of the said lever, the catches are raised out of the cogs of their wheels, to give liberty for winding the cloth when shorn on the roller of *n*, situated near to *I*. *K*, a roller, to guide the cloth, when wound forwards, that it may keep its situation on the surface of *C*: it is placed near the axle, *G*, on steps, in the same direction fixed to the pillars of *A*. *L*, an axle, with its handles, cog-wheel, and stop, resting on *B*, with its near stop. This axle has an aperture through the middle of it lengthwise, to admit the cloth through. Now, when the cloth is stretched

the latter patent was not a proper specification describing the whole machine, including the original machine, the

from one of the rollers of *n* to the other, by turning *l* to the right, more regular tightness is given to the cloth, and better fits it for the action of shearing.

"For effecting the progression in shearing and working the shears, *m* is a small sword, fitted on the handle of the projection of *z*, at one end, and at the other on the crank handle of *n*. *n*, a crank, with its pulley with one groove, and a small five-groove pulley. Or this may be reduced to a small one groove pulley, of about three inches diameter. The larger one-groove pulley carries a band to the power that drives the machine. The situation of this crank is nearly the same as *s*, fig. 1, and produces the like effect. *o*, is an axle, with a large five-groove pulley and screw pinion. These pulleys of *n* and *o* have their bands, and descend in their dimensions, as particularly described under letter *r*, fig. 2. *p*, a roller, with its cog-wheel, on which the bands wind that carry forward *d*, with all the other shears, more or less, fastened together by a rail, at their proper distances from each other (as in drawing), that each may take its proper share of cloth, being situated as described under letter *c*. Bands from *p* to *d* carry forward the shears of *d*.

"For stopping this frame, the stop part of fig. 1, under letters, *u*, *v*, *w*, *x*, must be put to it, fixed to the rails and pillars of *A*. *q*, is a projection attached to *d*, and will stop this frame when the parts above directed are fixed to it in the manner directed, fig. 1. *a*, is a line attached to the shears of *d*, and passing through a small pulley fixed in the back rail of *A*, runs through another pulley fixed in a convenient situation over the frame of this said fig. 3, and by pulling its extremity draws back the shears of *d* when they have cut their board of cloth.

"For working this machine, the cloth is wound on the upper roller of *n*, and round a small roller at the upper end of *A*, and extended down *c*, and under *x*, and to the other roller of *n*, where it is attached; the stop of the upper roller falling into its wheel, the cloth is tightened by the lower roller and the handles of the roller. *l*, their respective catches falling into the cogs of their wheels, which keep the cloth in a tight state, then throwing back the catch of *a*, the shears of *d* are let down to their work, when, by means of *r*, they are brought to their proper situation on *b*. Then lift up the lever of the stop frame into its notch, as directed under letter *s*, fig. 2, and the machine works. When the machine stops, as before described, and particularly described, fig. 1, under *x*, to shift the cloth for cutting another length, press down the near extremity of *i*, of this third figure, and wind the cloth that is cut on *n*. When lifting up the said extremity of *i*, the cloth may be tightened as above described, and the shears of *d* shifted to continue their work.

"Fig. 4, for raising a shag on cloth preparatory to shearing. *A*, the side and end rails, legs, and pillars, with its teale, frames, and cotters. *B*, the frames, one open and the other shut, which turn on hinges, and, when shut ready for work, are fastened by buttons screwed loosely to *c*. *c*, is a frame mortised, to fit four sides of *B*, when shut; and by small projections, or slides fixed to its four corners, rides in the groove of a third frame, fixed to the rails of *F*. *D*, a third frame in the inner grooves, or two sides of it, *c*, rides this frame, is attached to *F*, its

subject of the first patent, with the improvements, as one entire machine, not specifying the improvements sepa-

projection slides through the gutters or flutes of *L*, when working. *E*, the double crank, with its large pulley, which by a band goes to the working power. These cranks stand in contrary directions, on the same axle that the frame may work alternately. *F*, working rails, fitted on the crank handles, and fastened on by screws. These rails have a working joint near the side of *G*, and on the farther side of *G* are attached, by screws, to each end of *D*; and as *E* works the frames of *D*, which carry *C* and *A*, works round *L*, and so raise the shag. *G*, the pulleys, fixed in their frames over which *F* rides. *H*, the board for raising, in its inclined posture, with the cloth passing over it from one roller of *I* to the other. *I*, the rollers, situated before and behind *H*, and attached to the legs of *A*, by screws, the gudgeons riding on steps; and at the upper end of *H* is a small roller, to guide the cloth round the end of *H*, with swells for both lists of the cloth, after the manner of fig. 2, under the letter *C*. *K*, the check to the fore roller, *I*, which at one end is attached to one of the legs of *A*, and near that end lies over the same roller, and hollowed to fit it, and at the other end carries a weight, as in drawing. *L*, two pieces of plank, situated on both sides of *H*, at the upper termination of *M*. The inside of the said planks are fluted or guttered to the angles of *L*, which stands at the foot of *A*. The small projection at the top of *L* is a pattern of the slides fixed to the sides of *D*, which pass through the aforesaid angle when the frames are working, which raise them to and from the cloth. To effect the revolution of the slides that carry *C*, the top piece of *L* is fastened to the side of its plank, at or near the upper end, by a screw, on which it moves, and at near the bottom end it is fastened to its plank, but with the liberty to play. Now, when *D*, by its slides, has passed through the gutter, the lower end of the top piece of *L* falls, and forms a bridge, to carry the slides of *L* to the top of the gutter, for the making of another revolution. *M*, are small swords, terminating in *L*, and fastened with pins, and passing through sockets fixed to the rail of *A*, and mortised at the lower extremity into *N*, where they move on pins. *N*, a strong rail, extending along the side of *A*, having a joint in it, and turning on pins in a mortise fixed to the pillars of *A*. *O*, an axle, with small projections at its ends, in steps, lying on the lower rail of *A*, extending from one side of the machine to the other. *P*, small swords, one tenoned into the projection of *O*, and the other admitting the near extremity of *N*, through a mortise, where it moves upon a pin. *Q*, an upright leg, fastened at the lower end to the axle of *O*, near the lower rail of *A*. Now, by turning this leg to right or left, it moves *O*, and *O*, by its projection, raises and lowers the near extremity of *N*, and *N* raises and sinks *L*, which has a like effect on *A*, *C*, *D*; so that, by these mediums, *B* is brought into contact with *U* in all necessary degrees. *R*, is a cog-wheel, its situation is on the farther extremity of the back roller of *I*. *S*, two catches, for carrying forward *R*, attached to *I* at one end in mortises, and moving on pins, and the other working the cogs of *R*. *T*, the working leg, fixed to the farther pillar of *A* by a screw, as in drawing. The upper extremity of the said leg goes through a socket, fixed to the farther rail of *F*, near the upper part of it. Now, by the vibration of this said extremity of *T*, in its socket by *Z*, working *F*, *S* carries round *R*, and by varying the pins of *S*

ately, of which only a monopoly was granted by the second patent. The new invention, the subject of that patent, could not possibly be shown from that specification alone, without a comparison with the specification under the former patent, the law requiring, on behalf of the public, against whom a monopoly is granted, that the specification shall accurately and distinctly show the invention, the improvements which are the subject of this patent.

Sir Samuel Romilly and Mr. Scott for the plaintiff.—This is a mere question of law; whether it is necessary in the specification either to state the improvements alone, which would be unintelligible, or to distinguish what is the original machine, and what are the improvements. If the specification so describes the invention as to secure

nearer to, or more distant from, the centre of its motion, the said *a* is carried forward either faster or slower.

“For shifting *b* and *c* to right and left of *u*, for the purpose of raising more regularly, *v*, a cog-wheel and stop of the under side, with a handle near the periphery of the said cog-wheel, to act as a crank on the top side. *v*, three rails. The rail that crosses the top of *u*, is tenoned into the extremities of those that form or lie to the right and left of it. *w*, the steps on which *v* rides, with pins to keep the rails of *v* in their place. *x*, bands fastened at one end to *c*, and the other extremity passing through nuts fixed to *v*, where they are fastened by the end screws working through the side of their nuts against them. *y*, two legs, fastened together at the lower end by a working joint at the upper ends. The farther is attached to the near rail of *r*, and that nearer works upon a pin, a little short of its extremity, with a catch falling into the teeth of *w*; and as it works *u* round, there is another catch on the same side, which prevents the said *u* from working back. Now, *r* works *y*, and *y* works *u*, and *u* works by its crank, *v*, and *x* shifts *c* from right to left by turns in the degree necessary by tightening and slackening the band, *x*. *z*, is the near step of *e*, screwed to a short rail at one end, tenoned into the near pillar of *a*, near which the step of *a* is situated. The other extremity of the said rail is fixed under a pin, on a short upright leg, which at the lower is screwed to the inside of the near rail of *a*, near which the step of *a* is situated.

“Now, to set this machine to work, or stop it when working; for the latter, move the said rail from under its pin, and by raising it the band on *z* slackens, and the machine stops; and having extended the cloth from that near roller of *i*, on which it is wound, to that behind *u*, and fix the handles in *b* with its cutters, and buttoned them down, you must then bring the extremity of *z* under its said pin, and the machine works.

“And I, the said John Harmar, do hereby declare, that my said invention is intended to be worked in the manner herein before particularly mentioned.—In witness whereof &c.

“JOHN HARMAR.”

the benefit of it to the public after the expiration of the patent, that is sufficient. In the case of *Cartwright v. Amatt*, and *Another*,* your Lordship, when Lord Chief Justice, controverted the opposite opinions, both of Lord Mansfield and Mr. Justice Buller, putting the question thus, whether the specification is such that a mechanist can make the machine from the description there given; and considering the case of a patent not in the light of monopoly, as it had before been put by the judges, but as a bargain with the public; the specification, therefore, to be construed upon the same principle of good faith that regulates all other contracts; and if the disclosure is such that the invention can be communicated to the public, the statute is satisfied. The admissions of the answer are quite sufficient to maintain this injunction until the hearing, according to what your Lordship stated upon this subject in other cases.

The Lord Chancellor.—The ground upon which, where doubt is excited in the mind of the Court, an injunction is granted until the legal question can be tried, a ground that was acted upon in the case of *Boulton and Watt v. Bull*,† in some cases preceding that, and some that have occurred since, is this, where the Crown on behalf of the public grants letters patent, the grantee, entering into a contract with the Crown, the benefit of which contract the public are to have, and the public have permitted a reasonably long and undisputed possession under colour of the patent, the Court has thought upon the fact of that possession, proved against the public that there is less inconvenience in granting the injunction until the legal question can be tried than in dissolving it at the hazard that the grant of the Crown may in the result prove to have been valid. The question is not really between the parties upon the record, for unless the injunction is granted, any person might violate the patent; and the consequence would be, that the patentee must be ruined by litigation. In the case of *Boulton and Watt v. Bull*, therefore, though a case of great doubt, upon which some of the ablest judges in Westminster Hall disagreed, yet upon the ground of the possession by the patentees against all mankind, the injunction was granted until the question could be tried, and the result of the trial being in favour of the patent, proved that the conduct of the Court in that instance was at least fortunate.

* *Ante*, p. 173.

† *Ante*, p. 155.

The first of these patents, granted in the 27th year of the reign of his present Majesty is expired, and the patent for the improvements was granted in the 34th Geo. III. The agreement entered into by this defendant for a license to work under the patentee would not bind the defendant. If the plaintiff could not legally grant that license there was no consideration; and the question between them is therefore entirely open. Still, however, the patentee has had possession against all the world, and if he can maintain its validity by a due performance of the condition as to enrolment of the specification, by dissolving the injunction in the meantime I should act both against principle and practice; not only enabling this defendant against law to exercise a right in opposition to the patent, but also encouraging all mankind to take the same liberty.

I do not say a case might not exist where possession might be distinctly proved, and yet there might be such strong doubt whether the specification was not bad in law, that the Court would interfere and put an end to the injunction; and if I am to decide upon the inclination of my own opinion, where the practice is differently represented, and considerable doubt may be raised in argument, I think it is difficult to support this specification. The first patent, granted in the 27th year of the King, and expressly for this machine, expired in 1801; and the liberty of making the machine continued to be exercised under that grant, until the 34th year of the King, 1794, when the application was made for improvements upon the machine. I do not enter into the question whether a patent for improvements can be supported. The affirmative has been long settled, and undoubtedly is the law. The right under that patent to use those improvements would subsist until the year 1808; but the original instrument, without the improvements, was open to the public in 1801. In former instances great industry appears to have been exerted by patentees (who, I think, in general, have been hardly dealt with, but not in this respect), in the invention of some improvements, annexing them to the subject of the patent, and endeavouring to cover that, as well as the use of the improvements, during a much longer period than the law allows. If the improvements are of such a nature, so valuable that their value gives such an additional value to the old machine, that the public would prefer the improved machine, paying for the im-

provements, to the old machine without them, it is in respect of the worth of the improvements in consideration of the benefit derived from them, that the public abstains from the use of the original machine, but the choice ought always to be left open.

The second of these patents expressly recites the former as a patent for the original machine.* That he had made improvements upon the old machine; that for those improvements the inventor desired a patent; and for those improvements, the patent was granted. In compliance with the condition prescribed by a clause of the patent, that, if the patentee should not particularly describe and ascertain the nature of his invention, and in what manner it is to be performed, &c., the letters patent shall be void, the patentee enrolled a specification, reciting the letters patent, dated the 29th of March, 1794, granting the invention of the improvements, stating that they give special license, that the patentee shall, and no other person shall, from time to time, and at all times, &c., make use of &c., "a machine by him invented and found out, for raising the shag upon all kinds of woollen cloths, and cropping and shearing them, &c., and enjoy the benefit of the said invention" during fourteen years from that date, then reciting the proviso; in obedience to which, he describes the nature of the invention; referring, as he must do, to the drawings in the margin, and explaining them.

No man reading this specification can possibly collect from it the fact, that there were two patents, the one for the original machine, the other for the improvements upon that machine. It was argued, and very fairly, that if there was an original patent, and a specification under that patent, incorporating, either by reference or repetition, the specification under the former patent, as part of its own description, and proceeding to show what are the improvements, that would be a good specification; but I doubt whether it must not appear upon the specification enrolled for the improvements, what are the improvements; and still more, whether it must not so exhibit the thing to be specified as to show that it is improvements in respect of which the patent is granted, not having

In the Case of a patent for a machine, when a former patent is referred to, the specification of the latter must incorporate the description of the former as part of its description. When the specification of the former is not incorporated, it is not a good specification.

2^d whether claim in latter Spec. should not be confined to improvements only.

* The title of the second patent was in the following words:—"New invented improvements in a machine (for which he obtained his Majesty's letters patent, bearing date the 20th day of March, 1787), for raising a shag, &c., &c."

a tendency to mislead. Every person reading this specification would believe that in 1794 a patent was granted for a machine; and the specification holds out that the patentee is protected as to the use of every part of that machine constructed and worked according to the description contained in that specification, constituting the whole of it from the date of the only patent recited, that of 1794, until the year 1808. The question to be tried will be, not that stated at the bar, whether a specification referring to a former patent, and endeavouring to incorporate in it the former specification, would be sufficient in law, but whether a patent for a machine with a due specification, having been granted, and a subsequent patent being granted for improvements, it is competent in law to represent in the specification that the latter patent was granted, not for improvements, but for the machine, carrying forward that idea, and describing the new invention as one entire machine, not as improvements, contradistinguished from the original machine.

I feel very considerable doubt whether that can be made good, but there has been possession sufficient under this patent to make it fit that it should be tried, taking care that it shall be tried speedily. It may be put in the shape
 * of a case, stating the specification under the first patent; the second patent and specification; then stating facts sufficient to introduce the question as a question of law, whether the condition for enrolling a specification had been duly complied with. I adhere to the law, as I stated in the case of *Cartwright v. Amatt*.

Injunction sustained, a case being directed to be submitted to the Court of King's Bench.

HARMAR v. PLAYNE.

In the Court of King's Bench.—April 28, 1809.

THE following case was stated for the opinion of this Court by the Lord Chancellor. By letters patent, dated the 20th of March, 1787, the King granted to John Harmar, the plaintiff, for fourteen years, the sole privilege of making, using, and vending a certain machine by him invented, for raising a shag on all sorts of woollen cloths, and cropping or shearing them, which, together, come

* *The Specie was affirmed in this case as put to the Court
 see post. p. 268.*

under the description of dressing woollen cloths, and also for cropping and shearing of fustians; with the usual proviso or condition for avoiding the patent, on failure of enrolling a specification. In pursuance of this proviso, Harmar duly enrolled a specification of the said invention, with drawings of the machine in the margin thereof.* On the 29th of March, 1794, his Majesty granted another patent to Harmar, whereby, after reciting that Harmar had obtained letters patent on the 20th of March, 1787, authorizing him to make, use, and vend his invention of a machine for raising a shag on all sorts of woollen cloths, &c., for fourteen years; and further, that he had invented considerable improvements in the said machine, for which improvements in the said machine he prayed his Majesty's letters patent for the exclusive enjoyment thereof for fourteen years, pursuant to the statute; the letters patent, therefore, granted to him the sole privilege and authority to make, use, and vend his said invention, and have the whole profit thereof. The letters patent also contained a proviso, that if Harmar should not particularly describe and ascertain the nature of the said invention, and in what manner the same was to be performed, by an instrument in writing under his hand and seal, and cause the same to be enrolled in the Court of Chancery within one calendar month next and immediately after the date of the said letters patent, then they should become void. In pursuance of this proviso, Harmar did, in due time, enrol a specification in Chancery, with drawings of the machine in the margin thereof.†

It was admitted by the defendant, that the improvements for which the second patent was granted are included in the general description of the second or improved machine, as set forth in the specification of the second patent; and that the second specification does contain a full and proper description of the whole machine in its improved state. But the second specification does not, in any manner, point out or describe the improvements upon the former machine by any verbal description, or by any delineation or mark in the drawing; and which drawing is not a representation of the improvements alone, but of the whole machine in its improved state; nor are the improvements in any manner substantively and individually explained by the second specification; nor is the machine in the improved state contradistinguished

* Vide p. 246, *ante*.

† Vide p. 249, *ante*.

from the state and condition of it under the former patent, by any explanation whatever, nor by any delineation or mark in the drawing. But what the former machine was, and what were the said improvements thereupon, are ascertainable, and appear by referring to the first specification, and the drawings thereon, and comparing the second specification and the drawings thereon with the same. The defendants insisted, that the second specification was not a due performance of the condition of the second patent; and the question, therefore, for the opinion of the Court was, whether the proviso or condition in the letters patent of the 29th of March, 1794, had been duly performed by the enrolment of the said specification thereof?

Mr. Holroyd, for the plaintiff, contended, that the condition had been duly performed. The patent, and the specification referring to it, are to be construed together as one instrument, as in *Hornblower and Maberley v. Boulton and Watt*;* and the second patent recites the first, and that the patentee had invented certain improvements in the former patent machine, for which improvements another patent was prayed, which the King grants. The first patent and specification being enrolled, the public must be taken to know their contents: or, at least, the second patent by referring to the first, directs the party to the source from whence that information may be obtained in the manner required by law. The very nature of the second patent, which is for improvements in a machine for which a former patent had been granted, points to such former patent, and the specification annexed. There need not be an express reference: and by comparing the two patents and specifications together, the party seeking for information as to what he may lawfully make without the license of the patentee, must necessarily see for what particular parts of the improved machine the second patent was granted; and the patentee was not bound to state in his second specification, that which he had before stated separately in his first, and which the subject was bound to know. A specification need not contain every thing in length relating to the subject matter, but may refer to other public instruments, or to general sources of knowledge, which every person of reasonable skill and information on the subject may fairly be presumed to know. There is a constant reference in these instruments to drawings which accompany them,

* *Ante*, p. 156.

and without which the description of the particular invention would not be intelligible.

Lord Ellenborough, Chief Justice, asked, whether it were meant to be contended that a specification might refer to such and such articles in "*Chambers's Dictionary*" for a description of one part of a machine, and to certain other descriptions in other books for other parts and so on? which would lead to great inconvenience, and make the new invented parts described wholly unintelligible to those who were not furnished with those works—when the object of requiring a specification to be enrolled seemed to be to enable persons of reasonable intelligence and skill in the subject matter, to tell from the inspection of the specification itself, what the invention was for which the patent was granted, and how it was to be executed.

Mr. Holroyd, in continuation.—The public must take notice, at their peril, of all patents on record, and the last of them to which the specification in question belongs refers to the other. No person can be misled by the specification of a patent for an improved machine, describing the whole machine so improved; it is even more convenient, than merely stating what the improvements are; which would be a literal compliance with the condition, but far less intelligible: for such a bare method of describing the new invention would require a much higher degree of knowledge and memory of the subject matter, and of every former patent, than this, which describes the whole combination of new and old parts, forming the entire improved machine. The patentee has only an exclusive right to the whole combination for which his patent is granted, and the use of particular parts only is no breach of his rights: the description, therefore, of the particular improvements, distinct from the parts in general use before, would be useless to all, and less intelligible to many. Patents were formerly considered as injurious monopolies, and were therefore construed by the Courts with great strictness. But now, when a more liberal and just view of the subject prevails, they are properly considered as highly advantageous to the public, by holding out an encouragement to ingenious men to disclose their inventions; and *Lord Eldon*, when presiding in the Court of Common Pleas, said in the case of *Cartwright v. Amatt and Another*,* in Easter Term, 1800, in

* *Ante*, p. 173.

that Court, that they were to be considered as bargains between the inventors and the public, to be judged of on the principle of keeping good faith by making a fair disclosure of the invention, and to be construed as other bargains.

Lord Ellenborough, Chief Justice.—The difficulty which presses most is, whether this mode of making the specification be not calculated to mislead a person looking at it, and induce him to suppose, that the term for which the patent is granted may extend to preclude the imitation of other parts of the machine than those for which the new patent is granted; when he can only tell by comparing it with some other patent what are the new, and what are the old parts: and if this may be done with reference to one, why not by reference to many other patents, so as to render the investigation very complicated? It may not be necessary, indeed, in stating a specification of a patent for an improvement, to state precisely all the former known parts of the machine, and then to apply to those the improvement: but, on many occasions, it may be sufficient to refer generally to them. As in the instance of a common watch; it may be sufficient for the patentee to say, take a common watch, and add or alter such and such parts, describing them. And when Lord Mansfield said in the case of *Liardet v. Johnson*,* that the meaning of the specification was, that others might be taught to do the thing for which the patent was granted, it must be understood to enable persons of reasonably competent skill in such matters to make it; for no sort of specification would probably enable a ploughman, utterly ignorant of the whole art, to make a watch.

Mr. Wetherell, for the defendant.—The proviso in the second patent is express, that the patentee shall particularly describe and ascertain the nature of the said invention, that is, the improvements, and in what manner the same was to be performed; if that condition be not performed, the patent is declared void. Now it is not pretended that the improvements of the machine, for which alone the second patent was granted, are particularly described and ascertained in the specification, but the whole machine, including indeed, those improvements, is so described, without ascertaining the newly-invented parts. But the patent was not for the whole machine, but for a part only: so that no person, looking only to the second

* *Ante*, p. 35.

specification, or to that and the patent to which it appertained, could inform himself for what parts of the machine that patent was granted; and that knowledge can only be acquired by looking to both the patents and specifications. Unless the alteration of, or addition to, an old machine, be *bonâ fide* an improvement, and useful to the public, the Crown cannot grant a patent for it; and therefore it should appear upon the face of the instrument itself what the improvement is. Mr. Justice Buller, in the case of the *King v. Arkwright*,* lays down certain rules for the construction of patents, under the third and fourth of which the objections to this patent range. "Thirdly, If the specification be in any part of it materially false or defective," the patent is void. "Fourthly, The patent must not be more extensive than the invention; therefore, if the invention consist in an addition or improvement only, and the patent be for the whole machine or manufacture, it is void." Now here the specification is materially defective, in not ascertaining how much of the whole machine described is the new invention: and though the plaintiff has not taken out this patent for the whole machine, yet, having obtained his patent for the improvement of the machine, he has not made a specification of that improvement, as he was bound by the condition of the grant to do; but has made a specification larger than the patent, upon the face of which the particular improvements cannot be ascertained. In *Turner v. Winter*† it was held, that if the specification were ambiguous, or gave directions which tended to mislead the public, it avoided the patent. It is not enough, then, that persons of great skill and experience may be able to find out the invention from the specification; but it should be plainly stated, so that a person of reasonable knowledge and experience upon the subject may immediately be made acquainted with the invention. The specification ought to inform the public what the thing is for which the patent is granted, and how it is to be made, and not merely inform them where else that information is to be acquired; for that is not a compliance with the condition. No person applying to the specification of one patent is bound to know that another has been granted. If inquiry be necessary to be made for facts *dehors* the instrument itself, it is difficult to say where the line is to

* *Ante*, p. 53.

† *Ante*, p. 105.

be drawn: references may as well be made to dictionaries of arts and sciences, philosophical transactions, &c., as to other patents and specifications. The patentee is not to throw on the party inquiring the trouble and expense, and loss of time, of acquiring the knowledge of his invention, by investigation and comparison. The generality of the whole description may render it as ambiguous and difficult to be understood, as the too great generality of the particular terms in *Turner v. Winter* did. The public may well imagine from this specification, that the plaintiff had a patent for the whole machine, when in truth it was only for a part of it. It may be doubtful whether a direct reference to the former specification would have sufficed; but here there is no such reference: but the two instruments are endeavoured to be connected through the intervention of the second and first patents. If there were a succession of patents for several improvements, ending at different periods, it might be extremely difficult for a person to collect from specifications of this kind, the periods when the several inventions would be open to the public. But the true sense of the condition is to give the public direct and complete information of the manner of executing the invention, without further search or trouble.

Mr. Justice Le Blanc.—There lies the difficulty; for suppose the specification had merely described the improvements, such as the addition of a crank or a screw to such or such a part, must not the party still have referred to the original specification, or at least have brought a full knowledge of it with him, before he could understand truly how to adapt the new parts described to the old machine?

Mr. Wetherell.—Admitting that there may be some difficulty in satisfying the object of the specification by a mere description of the new parts to be added to the old machine, the patentee would be bound to state so much of the original specification as would make his description of the improvement intelligible; and perhaps the better and safer way would be to state the whole, and then to mark by references the new parts: but in whatever way it be done, the public should be able to ascertain at once, without looking to any other instruments, which are the new parts for which the patent is granted; and no objection could be made to any surplusage of explanation, pro-

vided it was not given in a manner to confound the inquirer as to the new invention.

Mr. Holroyd in reply, said, that if references to other instruments were made in such a manner as to obscure the subject and confound the inquirer, that would avoid the patent; but so far as the public are interested in having a perspicuous description of the machine in its most improved state, it cannot be done more effectually than by describing the entire improved machine; and those who are interested in discriminating between the old and new parts can have no difficulty in doing so, by comparing the two specifications; the latter of which, through the medium of the patent, having express reference to the former one; and every person being bound at his peril to notice these enrolments, and being liable to an action for infringing the patent, without having personal notice of it. Admitting, therefore, that a patentee cannot refer an inquirer to books or other writings, which he may or may not be able to obtain, or can only obtain by paying for it, or by the indulgence of another; yet here he is referred to a public source of information appropriated to this express purpose, which the patentee himself has afforded, and which the other has a right to have.

Mr. Justice Bayley.—Suppose the former patent and specification to be lost by accident; how is the public to know from the specification of the second patent how much of the whole improved machine they may use?

Mr. Holroyd.—The law presumes that all records will be properly preserved. The same difficulty, however, would occur, if a drawing annexed to the specification in question were lost; and indeed in the case put, there would be an advantage to the public in this mode of specification more than sufficient to counterbalance the loss of the particular information, as thereby the knowledge of the whole improved invention would be preserved. The greater difficulty would be thrown upon the patentee himself in shewing what the precise improvement was, in an action for the infringement of his patent; his claim of monopoly being confined to the whole combination described. As to the labour or difficulty of comparing the second with the first specification, in order to find out the invention, some labour and difficulty of this sort must always occur where drawings are referred to, annexed to

the specification; they must be read and compared together, and the party must bring his general scientific or mechanical knowledge, and perhaps other general information to bear upon the subject. If the first specification had been actually recited in the second, there must have been the same labour of comparison as in this case: the only difference here, is, that the party must refer to another parchment or record.

Lord Ellenborough, Chief Justice.—I own I was disposed to think that it was a departure from the terms of the proviso for the patentee merely to tell the inquirer who came to consult the specification, how he might learn what the invention was, instead of giving him that information directly. But I feel impressed by the observation of my brother Le Blanc, that the trouble and labour of referring to and comparing the former specification with the latter, would be fully as great if the patentee only described in this the precise improvements upon the former machine. Reference must indeed often be necessarily made in these cases to matters of general science, or the party must carry a reasonable knowledge of the subject-matter with him, in order clearly to comprehend specifications of this nature, though fairly intended to be made. We will, however, consider the case and certify our opinion.

The Court afterwards certified to the Lord Chancellor, that they had heard the case argued by counsel, and were of opinion that the proviso or condition in the letters patent, bearing date the 29th March, 1794, had been performed by the enrolment of the specification thereof set forth in the case.

WATSON v. PEARS.

In the Court of King's Bench.—December 6, 1809.

THIS was an action upon the case for the infringement of a patent, dated 10th May, 1808. The patent containing the usual proviso that a specification should be enrolled "within one calendar month next and immediately after the date thereof;" which specification was enrolled on the 10th of June following.

*There must
after refer to matter
of general science
as to other species
which have to be
understood in order
to determine what is
included in the former*

*In this case I have
held sufficient what
referred to former spec-
ification described the
invented machine
without expressly
stating the import of
confining claim thereto*

Mr. Park, for the defendant, insisted that the patent was void; the specification not having been enrolled on or before the 9th of June, when one calendar month from the date of the patent expired. The month must begin to run from the 10th of May, and included the whole of that day. It therefore could not extend to the 10th of June, there being a clear impossibility of two days of the same number being comprehended in one calendar month.

Mr. Selwyn, for the plaintiff, relied upon the case of *Thomas v. Popham*, Dyer, 219, b. The question arose there upon the statute of enrolments, 27 Hen. VIII. cap. 16, which enacts "that the enrolment shall be made within six months next after the date of the deed." The indenture in issue bore date the 9th October, 1557, and was enrolled in Chancery on the 21st of March, 1558, which was the last day of the six months, reckoning twenty-eight days to each month, and making the day of the date exclusive. The Court held that the indenture was well enrolled, and that the words "next after the date of the deed" were exclusive of the day of the date.

Mr. Park, in reply, urged that in that case the Court was bound if possible to support the validity of the deed against the grantor, who was a subject; but that the grant here being by the King, was liable to a different rule of construction, and that it had often been decided, that where a period was to be reckoned from a date, the day of date was inclusive.

Lord Ellenborough.—It used to be held that the words "from the date" includes the day; "from the day of the date" excludes it. But since the case of *Pugh v. Duke of Leeds*, Cowp. 714, these formal distinctions have been done away; and the rule of good sense has been established, that such words shall be construed according to the meaning of the parties who use them. The case cited upon the statute of enrolments, I think is expressly in point. That shows that the day on which the patent bears date is not to be reckoned. The month, therefore, only began on the 11th of May, and included the 10th of June, the day on which the specification was enrolled.

The defendant afterwards had a verdict on the merits of the case.

BAINBRIDGE v. WIGLEY.

In the King's Bench.—December, 1810.

THE plaintiff and defendant in this case were both musical instrument makers. The action was brought for an infringement of the plaintiff's patent right of exclusive making his improved flageolet. The plaintiff's specification* stated, that he had improved the flageolet by per-

* The specification was in the following words:—

"To all to whom these presents shall come, I, William Bainbridge, of the parish of St. Andrew Holborn, in the City of London, Musical instrument maker, send greeting. Whereas, his most excellent Majesty King George the Third, did, by his letters patent, under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster the 26th day of February, in the fiftieth year of his reign, give and grant unto me, the said William Bainbridge, my executors, administrators, and assigns, his especial license, full power, sole privilege and authority, that I, the said William Bainbridge, my executors, administrators, and assigns, during the term of years therein mentioned, should and lawfully might make, use, exercise, and vend, within England, Wales, and the town of Berwick-upon-Tweed, my invention of 'Certain improvements on the English flute or flageolet;' in which said letters patent there is contained a proviso obliging me, the said William Bainbridge, by an instrument in writing under my hand and seal, to cause a particular description of the nature of my said invention, and in what manner the same is to be performed, to be inrolled in His Majesty's High Court of Chancery, within two calendar months after the date of the said recited letters patent, as in and by the same relation being thereunto had, may more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said William Bainbridge, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained, as follows, that is to say:—

"First and principally, I do construct the English flute or flageolet in such a manner, and with such proportions of the parts, that the upper joint or mouth joint shall be the same or nearly the same as in other English flutes or flageolets, as far as relates to the several parts by which the peculiar sound of the instrument is produced, and that the other joints upon which the fingering is performed, shall be either the same or nearly the same as those of the German flute, in order and to the effect that the English flute or flageolet so altered and improved, may and shall require the same fingering in performing as is required to be used in performing on the German flute. And I do declare that in order to produce the said last-mentioned effect in the most complete and perfect manner, it is necessary that the following directions should be attended to; that is to say:—Let the upper joint, which is to be plugged, be bored throughout regularly from end to end about one eighteenth part of an inch wider than the upper joint of a German flute of concert pitch, and let the other joints be turned and bored in the same manner as a good German flute, with the additional keys, or with one only, as may

fecting notes which were before imperfect on the old instrument, by giving it a power of producing notes not before

be required. And let the holing be the same, except the third and fourth hole from the top, which will be better if made a very little smaller than usual, because such construction will prevent the *G* and *A* from being too sharp. And whereas, the *F* sharp is too flat on most flutes, it is advisable to make the fifth hole a very little larger than on the German flute. And moreover, I do declare, that the upper joint of the English flute or flageolet may be turned of the same thickness as that of the German flute of the same pitch, and that in such and the said case the distance from the centre of the plugged part to the centre of the uppermost finger-hole must be about nine inches and five-eighths. And that I do cut away the back part of the plug underneath about one inch deep, but do at the same time leave that part of the plug which covers the throat about the thickness of three-sixteenths of an inch, but that the thickness or quantity to be cut from the plug may be, without difficulty, regulated by a competent workman or maker of these or the like instruments. And further, that the breadth of the plug-hole of an English flute or flageolet as before described must be from side to side about half an inch, and the distance from the bottom of the plug to the wind cutter about the three-sixteenths of an inch; and that the distance from the hole out of which the sound issues, or the plugged hole to the first finger hole may be varied, and the same effect continue to be produced; that is to say, if the plugged joint be turned of larger diameter, and plugged according to the proportions hereinbefore given, the flute will be flatter, and, consequently, the distance between hole and hole must be less; and so, on the contrary, if the diameter or bore be smaller and the plugging the same, the instrument will be sharper and the distance from hole to hole must be greater; and a like observation may be made with regard to the variation of the said distance between hole and hole if the plugged hole from which the sound proceeds be made either larger or smaller, because the larger hole will give the sharper pitch, and will require the said distance between hole and hole to be greater; and, on the other hand, the smaller hole will give the flatter pitch, and require the said distance to be less, the bore being supposed the same in both cases. And lastly, if the bore itself be varied as to the plug or upper joint the wider bore will be the flatter tone, and require the holes to be nearer together than would be required if the bore were narrower.

"Secondly, I do make a small aperture about the size of a strong pin, in the said top joint, about two inches from the top hole of a concert flute or flageolet, as hereinbefore described; and I do cover the said hole either with the thumb or by means of a key for producing all notes below *E* on the fourth space, and I do uncover the same for producing all notes above that *E*, by which means the said last-mentioned notes are rendered more clear and certain. And I do declare, that the said small aperture will produce the like effect if placed within considerable limits, either higher or lower, but that the situation here described is the best, because it makes very little difference of pitch in the notes above *E*.

"Thirdly, In order to construct flutes of various sizes with the improvements hereinbefore described in the best manner, the following instructions must be attended to. 1. For the octave let the upper joint be

to be produced on the old instrument; and also for rendering the fingering of it less complicated, inasmuch as

bored about the thickness of a piece of paper wider than the German flute of that size, and from the top finger hole to the sound hole or centre of plug hole, when turned the same as an octave German flute, the distance must be about four inches and a half, and the breadth of the plug hole about five-sixteenths of an inch, and from the bottom of the plug to the wind cutter about one-eighth of an inch, and the back of the plug must be cut away, as in the large size, about half an inch, leaving the surface of the plug in thickness about one-eighth of an inch, and the said small sized flute may be constructed either with or without the aperture hereinbefore described, and made for rendering the upper notes more clear and certain. 2. For the *C* flute or one size larger than the octave, the distance from plug hole to finger hole must be five inches, breadth of plug hole five-sixteenths, and from the bottom of the plug to the wind cutter, about one-eighth of an inch, the plug being cut away underneath as before. 3. For the *B* flute, from plug hole to finger hole five inches and seven-eighths; breadth of plug hole, nearly three-eighths; from plug to wind cutter one-eighth; and the plug cut underneath as before. 4. For the *A* flute from plug hole to finger hole six inches and three-eighths; breadth of plug hole nearly three-eighths; from plug to wind cutter full one-eighth; and the plug cut under as before. 5. For the *G* flute, from plug hole to finger hole, seven inches; breadth of plug full three-eighths; from plug to wind cutter, full one-eighth; and the plug cut underneath as before. 6. For the *F* flute from plug hole to finger hole, seven inches and five-eighths; breadth of plug hole, seven-sixteenths; from plug to wind cutter, three-sixteenths; plug cut underneath as before. 7. For the *E* flute, from plug to finger hole, eight inches and a half; breadth of plug hole, near half an inch; from plug hole to wind cutter, three-sixteenths; plug cut underneath as before; and smaller or larger flutes may be made conformably to the said instructions, and all the several sizes must be turned, bored, and holed in the same manner as a German flute or piccolo, either with one key or more, according to the respective sizes, except the *F* *G* and *A*, which are better if made a little flatter.

"Fourthly and lastly, I do apply to English flutes or flageolets constructed with the improvements hereinbefore described, a key for producing the half-tones for which his Majesty was pleased to grant unto me the sole privilege and use, by certain letters patent, bearing date on or about the 14th day of May, in the forty-seventh year of his reign. And I do either make the aperture for blowing the said English flute or flageolet, at the end or at the side of the upper joint or piece, and with a projecting mouth-piece or without. And I do, in the case of making the aperture in the side, so dispose of the tail of the before-mentioned key for producing the half-tones, as that the same shall or may be pressed by the lips during the time of performance when required. And I do consider the said placing or disposing of the said tail in order to produce the effect by means of the lips as here described to be one of the said improvements which constitutes the invention for which his Majesty hath granted me the hereinbefore first recited letters patent. And I do declare that my said improvements may be used together or separately, or any two or more of them together, in any such manner as

on his improved instrument cross fingering was avoided, and the notes were produced by raising the fingers in succession and in their natural order. Another improvement resulting from this mode of fingering was, that the music might be pricked as easily by cyphers as by the musical characters. The specification then set out the mode by which that was effected, which was by additional keys, by varying the position, and altering the dimensions of some of the finger holes; some objections were taken to the specification, but Lord Ellenborough held that the specification was only the *modus operandi*; and in order to ascertain whether that was good or not, would be to call competent workmen and to ask them whether they could make the instrument by the mode therein specified. Two witnesses, Mr. Sharpe, the flageolet player at the Opera House, and the person who played the same instrument at the Lyceum, were called to describe the improvements of the plaintiff's patent instrument. They both described it as a great improvement. In the old instrument, C natural on the third space, was so imperfect and discordant a note, that they always transposed music into another key to avoid it. By the patent flageolet also they could go as high as double F, which was a note beyond the compass of the old instrument. It did not appear that it produced any other new note.

Lord Ellenborough held, that this would be fatal to the patent, the ground on which it was granted having failed, the consideration on which his Majesty was induced to grant his patent not being truly stated; it was granted on the faith that the patentee had truly stated the grounds on which he claimed that exclusive privilege. It was here stated that the plaintiff had by his improvement given new notes to the instrument, whereas, in fact, he has produced but one new note.

His Lordship having intimated this opinion, the parties, after a short consultation of the counsel, came to a compromise. It was agreed to withdraw a juror, by which both sides pay their own costs, and the plaintiff undertook to bring no new action.

shall be found advantageous or desirable in the use of the said English flute or flageolet. In witness whereof, I, the said William Bainbridge, have hereunto set my hand and seal, the 26th day of April, in the year of our Lord, 1810.

"WILLIAM BAINBRIDGE."

*Specimen to state truly
the nature of the
invention patented*

EX PARTE FOX.

In the Court of Chancery.—December 8, 1812.

THE petitioner having applied for a patent in respect of certain improvements in steam engines, a caveat was entered under an existing patent; from which it was alleged the new patent was borrowed, and with which it would interfere: the affidavit of an engineer stating, that they were not the same, nor in any respect resembling each other.

Sir Samuel Romilly and *Mr. Johnson*, in support of the petition.

Mr. Hart, for the other patentee.

The Lord Chancellor (Eldon).—If the petitioners have invented certain improvements upon an engine, for which a patent had been granted, and those improvements could not be used without the original engine, at the end of fourteen years the petitioners could make use of a patent taken out upon their improvements; though, before the period expired, they would have no right to make use of the other's substratum. At the end of that time the public has a choice between the patents. My present opinion is, that this patent must go; but I will read the affidavits and see the parties and their models.

On the following day the Lord Chancellor said, this is a very difficult subject to deal with; but upon not an inattentive consideration, I think I am not justified in withholding this patent. I do not like to give costs in a case of this kind. I cannot say the jealousy on the other side was unreasonable.

Patent may be granted for improvements upon an existing patent but without prejudice to such prior patent

MANTON v. PARKER.

In the Exchequer of Pleas.—July 6, 1814.

THIS was an action brought for the infringement of a patent granted to the plaintiff, dated 6th July, 43 Geo. III. for "a hammer on an improved construction for the locks of all kinds of fowling-pieces and small arms."*

* The specification of this patent was as follows:—

"To all to whom these presents shall come, *Joseph Manton*, of *Davies-street, Berkeley-square*, in the parish of *Saint George, Hanover*—

Mr. Dauncey, for the plaintiff, stated, that *Mr. Manton* had obtained a patent for the discovery of a new principle to be applied to the locks and hammers of guns. *Mr. Manton* discovered, that if the air-hole in the lock, which is described in the specification, should be made, the purpose would be answered, and consequently that it was an in-

square, in the county of Middlesex, gun-maker, sends greeting. Whereas, his present Majesty by his royal letters patent, bearing date on or about the 6th day of July last past, in the forty-third year of his reign, was graciously pleased to grant to me, the said *Joseph Manton*, my executors, administrators, and assigns, the sole making and vending a hammer, on an improved construction, for the locks of all kind of fowling-pieces and small arms, within that part of his Majesty's United Kingdom of Great Britain and Ireland, called England, his dominion of Wales, and town of Berwick-upon-Tweed, for the term of fourteen years: in which said letters patent is contained a proviso for me, the said *Joseph Manton*, to describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be enrolled in his Majesty's High Court of Chancery, within one calendar month next and immediately after the date of the said letters patent, as in and by the same relation being thereunto had may more fully and at large appear. Now know ye, that in compliance with and performance of the said proviso, I, the said *Joseph Manton*, do hereby describe and ascertain the nature of the said invention, and in what manner the same is to be performed in manner following (that is to say): on the margin are three views of the improvements in the hammer. *A*, is the part which is next the touch-hole, and is hollowed out and perforated with a small hole, so as to let the air pass through, but not the powder; *B*, is the seat of the hammer, which is grooved or hollowed out from the perforation to the edge *C*, so as to let the air out of the pan, but not the powder. Now the intention of this improvement in perforating the hammer, grooving or hollowing out the seat, is to let the air out of the barrel and pan; in putting down the wadding, the powder in the barrel, by the air being allowed to pass, is forced into the perforated receiver *A*, so that the touch-hole is always full of powder, and by these means fire arms of all kinds are prevented from flashing, or hanging fire. These hammers may be applied to all kind of fire arms, and may be varied in size, form, shape, and manner of perforation, grooving, or hollowing, and manner of letting the air out of the barrel and pan. And I, the said *Joseph Manton*, do hereby declare and affirm, that particulars above set forth do contain a full, true, and perfect description of the nature of the said invention, and in what manner the same is to be performed. In witness whereof, I, the said *Joseph Manton*, have hereunto set my hand and seal the 4th day of August, in the forty-third year of the reign of our sovereign Lord George the Third, by the grace of God of the United Kingdom of Great Britain and Ireland, king, defender of the faith, and in the year of our Lord one thousand eight hundred and three.

"JOSEPH MANTON."

vention attended with all the conveniences the exclusion of air could produce, and none of the inconveniences of the powder being driven out with it. If the thing was invented before, then undoubtedly Mr. Manton was not the first inventor; but there would be no difficulty in proving it to be Mr. Manton's invention, and that it had been adopted by the defendant. It is necessary that there should be a specification of the invention; in other words, that the party should so describe that which he has invented as that any body who is skilful on the subject may be able to make the same thing; and that when the patent has expired the world at large may have the benefit of the discovery. That has been done. It will be shown by experienced gunsmiths, that they never knew or heard of such an invention anterior to this of the plaintiff's. The peculiar excellence of it they will speak to; and they will show that no man of skill could be under any difficulty in making, from the specification, a similar article. [The Learned Gentleman then called evidence to the effect stated by him.]

Mr. Scarlett, for the defendant, said, that all with which the jury had to do was the originality of the invention, and the adaptation of the means to the end; and further, whether the invention was of use to the public. If a man takes out a patent for an original invention, and he claims more in his specification than is original, or he has a right to, the patent is void for the whole; therefore, if any one of these specifications shall turn out not to be original; if the lip, the groove, or the hole, should either of them be his invention, but if there is one or either of them which is not his invention, in that case, as the specification gives reason to the public to suppose that he claims the whole, the patent is void, and he cannot maintain his action. The Learned Gentleman then contended that the patent was bad from the evidence produced for the plaintiff, showing that a groove communicating with the touch-hole existed before, and contended that the plaintiff ought to have limited his patent to the invention of what was new and unknown before. If hammers before existed in which grooves were made half way, he should have stated that he had carried them the remaining part of the way. He claims the groove as his original invention, and upon that ground his patent is void.

Although the groove may only have gone across the hammer-seat by accident, yet if a man in making a groove should by accident have carried it across to the open air, and should have sold the article in that state, so that the public were in possession of it, though it was not intended to have been so made, yet it cannot afterwards be claimed by another as an original invention. The plaintiff says, his object is to make a hole large enough to admit the air, but not so large as to admit the powder; by which means the air is let through, and the powder kept in the touch-hole. Now, if the hole is for the purpose of letting the air pass through, it follows that in a damp day it will admit moisture; and the effect of moisture upon powder would be to make the gun hang fire, or probably miss fire: but it will be proved, that almost the moment after Mr. Manton procured his patent, he found it essential to make the hole large enough for powder to pass as well as air. If a man takes out a patent, professing that it is to do a certain thing, and it is found by experience that it will not produce the effect designed, but that to make it of utility there must be a deviation from the specification, the patent is in that case wholly void. That rule was laid down in the case of *Turner v. Winter*,* where all the doctrine upon the subject is to be found: it is there stated, that if a man takes out a patent for several things, some of which are original and some not, or if there is any thing which will not answer the end proposed, the patent cannot be sustained. The Learned Gentleman stated, that he should produce a man from Birmingham, a perfect stranger to the parties, who had never seen Mr. Manton's patent, but who had made hammers with perforated lips many years since. He had not any then remaining by him, as they did not answer, but from recollection made one which was produced in Court, having the lip and the perforated groove in the seat of the hammer. The groove did not go to the extremity of the seat, but Mr. Manton does not take out his patent for a part, but for the whole; not for the lip only, but for all the three; the groove, the hole, and the lip. A lock will be produced upon the same principle, made by a country workman, in consequence of his being desired to represent the same article he had before sold. It approximates so close to this patent, that

* *Ante*, p. 105.

Manton v. Parker.

Jos. Manton v. Jno Manton.

the conclusion is inevitable that the whole of this patent is nothing more than putting in practice that which has long been exploded; that which neither separately or combined has been found to be of any use. Witnesses will be called to prove that they made locks of this description, and upon this principle; but not finding them answer, they were not brought into use. The groove in the hammer existed in all old fire-arms. It will be proved that there is no one particular in which this invention has any claim to originality; that locks upon the same principle were made years ago, and exploded years ago. Now it is not because a person chooses to revive a thing that is old and exploded, and takes out a patent for it, that such a patent can confer any right.

The witnesses on the part of the defendant were called to prove what had been stated, and amongst other things it was shewn by experiments made in Court, that the powder passed through the perforated lip, by its own gravity, without the least difficulty.

If the purpose of the invention as described in the Specification fail, the patent is void.

Lord Chief Baron.—The powder passes through the same hole as the air. It seems to me, therefore, that the utility of this invention, and the purpose of this patent, wholly fail; for the purpose of the hole, as described in the specification, is to let the air pass through, and at the same time secure the powder from passing through: that of itself would be an answer to this action. Besides, on the other part of the case, the evidence is pretty strong.

Plaintiff nonsuited.

JOSEPH MANTON v. JOHN MANTON.

In the Court of Common Pleas.—June 20, 1815.

THIS was an action brought by Mr. Joseph Manton, under the direction of the Court of Chancery, against his brother, Mr. John Manton. Its object was to complain of infringements upon two patents granted to the plaintiff; the first, dated the 6th of July, 1803, for "a hammer upon an improved construction, for the locks of all kinds of

fowling-pieces and small arms,"* and the second, dated the 6th of September, 1806, for "an improvement in double-barrelled guns."†

* For specification of the patent, see page 275, *ante*.

† The specification was in the following words:—

"To all to whom these presents shall come, I, Joseph Manton, of Davies-street, Berkeley-square, in the parish of Saint George, Hanover-square, in the county of Middlesex, gun-maker, do send greeting. Whereas, his most excellent Majesty King George the Third, by his letters patent, under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the 15th day of September, in the forty-sixth year of his reign, did give and grant unto me, the said Joseph Manton, my executors, administrators, and assigns, during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within that part of the United Kingdom of Great Britain, called England, Wales, and the town of Berwick-upon-Tweed, my improvement in double-barrelled guns, in which letters patent there is contained a proviso obliging me, the said Joseph Manton, under my hand and seal, to cause a particular description of the nature of my said invention, and in what manner the same is to be performed, to be enrolled in his Majesty's High Court of Chancery, within one calendar month next and immediately after the date of the said recited letters patent, as in and by the same relation being thereunto had, may more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said Joseph Manton, do hereby declare, that my said invention is an elevated top piece, or top rib, for double gun barrels, which said top piece, or top rib, must be made high at the breech ends of the barrels, and tapering off to the muzzles: the intention of making the top piece, or top rib, high at the breech ends of the barrels is to give the barrels elevation to throw the center of the charge of shot up to the object aimed at, at the distance required; I should recommend the top-piece, or top rib, for general shooting, to be made so high above the surface of the barrels at the breech, that a double gun will throw the center of the charge of shot up to the object aimed at, at the distance of forty yards; but if a double gun is required to throw the middle of the charge of shot up to the object aimed at, at a greater distance, the top piece, or top rib, must be made still higher, above the surface of the barrels at the breech, to give the barrels more elevation. This improved top piece, or top rib, may be worked solid out of the barrels, or brazed, soldered, or fixed on, or made hollow or part soldered and part hollow, or may be partly continued on the barrels, so there is sufficient length to direct the eye to the object. This elevated top piece, or top rib, may be made of iron, steel, brass, or any metallic or other substance that will answer the purpose, and may be grooved out in the usual manner, or made flat, round, or any other shape or form, according to fancy, so that it is made sufficiently high above the surface of the barrels at the breech, to give the barrels elevation to throw the center of the charge of shot up to the object aimed at, at the distance required. The advantages of this elevated top piece, or top rib, are, that sportsmen will be less liable to shoot under their game, and the aim will be more direct and less confused, and that a light double gun can be made to throw the middle of its charge of shot up to the object aimed at, at the distance

Mr. Serjeant Lens stated the plaintiff to be the first and sole inventor of this improvement upon the hammer, the effect of which was that of producing a better or more perfect way of loading fowling-pieces and small arms, without the danger of their hanging fire, and in such a way as to produce a certain explosion. It is a material object to have the powder in the barrel communicate as speedily as possible to the powder in the pan, for, if there is any disunion, the powder in the barrel will not take fire so instantaneously as if its communication was uninterrupted: the piece will either not go off at all, or it will hang fire; whatever, therefore, brings about such an unbroken union must be a desirable object. In ordinary cases before this invention, when the wadding was rammed down, there was always a quantity of compressed air within the barrel, which was forced out at the touch-hole. It was easy to let the air escape, but it was desirable that it should carry none of the powder with it, as that would make an actual discontinuance between the powder at the bottom of the barrel, and the powder in the pan. To remedy this defect, the invention of the plaintiff is very simple: it is, to have an aperture in the lip or cap that goes over the pan so small, that when the cap is down, the compressed air shall escape through the aperture, without discomposing the powder, but leaving the powder where it was. If the aperture is not very small, not only will the air be forced through, but the small grains of powder will be carried with it. It will be proved that the aperture is well adapted to produce the effect intended. This appears to be a very easy matter; it is difficult to conceive how it should not have been found out before. It often happens, that the merit of an improvement consists in a very small addition to the thing to which the improvement is applied. The aperture is very fine and minute, but it is sufficiently large to let the air escape, and yet small enough to prevent the powder from passing. The object is to have this smaller aperture precisely where the lip closes upon the touch-hole; and this invention required; and also, that it will not be necessary to bend the barrels upwards, nor to make them clumsy at the breech, the elevation being given to the barrels by this improved top piece. In witness whereof, I, the said Joseph Manton, have hereunto set my hand and seal the tenth day of October, in the year of our Lord one thousand eight hundred and six.

"JOSEPH MANTON."

tion has answered every purpose for which it was intended. It will be proved, that before Joseph Manton had his patent, there were continual inconveniences from fire-arms not going off, or hanging fire; and that since this invention, there has been a more certain dependance upon the explosion taking place, and the piece neither missing nor hanging fire. The defendant, in imitating this invention, has not made the aperture precisely in the same line, but he has produced the same in an oblique line. When a man sets about to imitate the invention of another, he will not do it exactly in the same way. Instead of making the aperture through the pan, the defendant has made a small angle passing it obliquely. This is the nature of the infringement complained of. The question will be, whether this is a new invention, or whether it has existed from an antecedent time? In the latter case, the plaintiff can claim no merit. There may have been things something of this kind, but no such aperture as the one invented by the plaintiff has ever before been in use. There may have been hammers made with lips, but those lips were never perforated to produce the effect produced by this invention. With respect to the other patent, which gave to the plaintiff the merit of having invented an elevated top-piece for double-barrelled guns, it was observed, that if the point of view in a double-barrelled gun is carried on the same level, the person firing off the piece will send the shot in a line horizontal with the mouth of the barrel; the consequence will be, that if the object is at some distance, and the contents of the barrel are carried in the same line of direction, the charge will probably go below the object aimed at: for, by the power of gravity, all heavy bodies incline downwards: therefore, when a gun is fired at any object beyond a certain distance, the ball or shot forms a curve, and has an inclination to sink nearer the earth. The shot will be carried in a straight line as long as the first impetus operates: but when it in the least degree ceases, the shot will, by the principle of gravity, sink below the object. It was, therefore, important to contrive a means by which the person taking his aim should be able to throw the shot higher than it would be carried by his own sight along a level plane. Now that is only to be effected by making the line of sight extend along an inclined plane: by the elevated top-piece, the point of sight is carried in a different line, extending somewhat above

the object at which the aim is taken, which allows for the descent produced by the principle of gravity, and the shot is made to proceed in a more elevated line, so as at a certain distance to sink, and by that means meet the object sought to be struck. The thickness and consequent elevation of the breech in double-barrelled guns gave an additional weight, which was considered a great inconvenience. It therefore became desirable to lessen the weight, which could only be done by making the breech of the same thickness as the muzzle; but the consequence was, that the line of direction was varied. In obviating this difficulty is the great merit of the present invention; for instead of having each barrel thick all round at the breech, the same effect is produced by what is called an elevated top-piece, or top-rib. Till Joseph Manton invented this, the inconveniency of using double-barrelled guns was universally felt. This invention the defendant has also imitated and sold, in defiance of the patent. The question will be, whether the defendant has infringed these patents? It will be shewn that he has infringed both of them; that all the purposes for which the patents were obtained have been attained by the inventions for which they were granted; and that before Joseph Manton introduced these inventions to the public, and obtained his patents for them, the same effects had never been produced by any similar methods. [The Learned Gentleman then called several witnesses to speak to the value of the patents, and also, that they had been infringed by the defendant.]

Mr. Serjeant Best, for the defendant, said, it was not for him to dispute whether the principle upon which the plaintiff has made his guns was a good principle or not: whatever advantage there might be in those guns, he should prove that the principle was not new. It was not doubted but many persons might be called who never shot with such a gun before; but although many gentlemen have never seen these guns before, yet, if one is called who has, there will be an end of the patent. That will be the defence. Here are two distinct inquiries to which to direct the attention; one with respect to the gun-lock, the other with respect to the rib on the top of the gun. First, the gun-lock as exhibited in the plaintiff's specification: it will be shewn, from the evidence as it stands, that the patent cannot be sustained; but if that should

not succeed, I have a case behind, by which I shall prove, that this gun-lock is "as old as the hills." It is important that a person who takes out a patent should not take it out to a larger extent than the invention warrants. A person taking out a patent is to state that which is new, distinguishing it from that which was known before; he is to claim his invention for so much as is his own, and no more; he has no right to any thing beyond what he adds to the stock of public knowledge. If he could claim more, he would be taking from the public, and appropriating to himself what the public had before a right to the enjoyment of; therefore, if he takes his patent out too large, the patent is void altogether. If, therefore, the plaintiff has taken out his patent for too much, or has described it indistinctly, in either case his patent will be void. Now it is clear upon his own evidence, that he has taken out his patent for too much. He, by his specification, not only claims the perforation, but he claims the larger hole called the cup. Is that new? One witness says, that he has made scores and scores of them. If a man claims an invention for a perforated lip, a lip being a thing well known before, and used before, he must state that he claims his patent for the perforation of a lip, whereas this is a claim for the lip itself; which, according to the plaintiff's own evidence, the public were in the habit of making before. He claims also the groove that runs across the seat of the hammer. Mr. Egg tried the grooves, and left them off: other witnesses speak of the groove as a thing well known. There is only the perforation that is new: the commencement of the groove at the lip is old; the groove which passes from the perforation to the outer extremity is old. How is it possible that this patent can stand, even on their own evidence? for in the specification, the plaintiff insists that the whole is new. There is another thing: he must so describe it, that a workman may know how to make it. The size of the hole that is to let the air out but not the powder is not described. The groove is the most material part of the invention: it is that which is to carry into effect the whole. It is so described, that without the groove, the invention would be of no use. The plaintiff, by obtaining this patent upon so large a scale, would have a right to maintain an action against a person for

doing that which any of the public have been long entitled to do.

The Lord Chief Justice.—No doubt he must prove the novelty of every part of that to which his patent applied.

Mr. Serjeant Best.—The plaintiff claims the seat of the hammer grooved or hollowed; the grooving or hollowing out we have not got: the two things are as different as possible; the grooving in the specification is to let the air out of the pan,—ours cannot let the air out of the pan, for the air never gets into the pan, it is carried off by another course: it would be a very difficult task to point out which of the two is best, but common sense says they are not the same. The other question will be easily disposed of when we come to the specification with respect to the rib; but the plaintiff has taken out his patent for an invention which he never invented. It will be proved that this pretended invention was used before Joseph Manton was born, or at least long before he ever thought of taking out this patent. [The Learned Serjeant then produced some locks, which were ordered by the Lord Chancellor to be exhibited upon the trial of the issue directed by the Court of Chancery to decide the question between the parties, in which he shewed the cup, the lip, and a perforated lip with a communication to a sort of magazine, which he would prove had been in use many years, and that these kind of locks had been made commonly at Birmingham upwards of thirty years ago.] The groove in the present case goes to the end of the hammer, while the groove in the other goes only half way. This makes an end of the question, because he has taken out his patent for the cup, the lip, and the perforated lip, all of which were before in possession of and used by the public. He has carried the groove the whole way, which before went half way; but where a man has taken out a patent for carrying a groove the whole way through the hammer to the extremity of the pan, the practice before having been to extend it half way, he cannot in such case maintain an action for the infringement of his patent. It will be proved that whether the perforation is new or not, it is not important. Nothing is said in the specification about the cup; the only things, therefore, to be attended to are the perforation and the groove, and both of them are shewn to be known before this patent was taken out: what he

has taken out his patent for is the perforation and the grooving, and it will be proved that they are old, and that all is old for which the plaintiff claims his patent. It is in evidence that the only novelty which the plaintiff calls an invention consists in having a solid piece: if a high breech and a low sight were in use, that is the whole of the principle. The principle of a rifle gun is exactly the same; but a gun made for Lord Berkeley twenty-six years ago, and made by the defendant, will be produced, which is precisely upon the same principle for which the plaintiff has taken out his patent: it makes no difference whether the inclined plane is grooved or flat. The antiquity of the principle will be proved, and other pieces upon the same principle made before the patent will be produced. As to the law upon this subject, the plaintiff declares in his specification that his invention is an elevated top-piece, or top-rib, for double-barrelled guns, which must be made high at the breech and tapering off to the muzzle. All the plaintiff has done is, that he has applied to a double-barrelled gun what had been before applied to a single-barrelled gun. If a man took out a patent for a particular shoe buckle, could the same principle be applied to a knee buckle, and a new patent be taken out for it? Clearly not. [The Learned Gentleman called evidence in support of the defence, to shew that the inventions were old, and that the specifications were insufficient.]

Mr. Serjeant Lens, in reply, said that the whole of the case on the part of the defendant could be answered by a few observations. The counsel for the defendant had said that he should prove that there was no new invention, but that it was "as old as the hills." If he had proved that, there would have been an end of the question; but he found his challenge too bold. He states that we have claimed three things when we are only entitled to one; now we do not claim the exclusive right of making grooves in hammers, they have existed long before our invention; we do not claim the exclusive right of making lips, or hollowing out cups, they too have been of long existence; that which we claim is, that we have found out a way by combining and using these things which were before invented, with something that we have invented, of producing an effect which was never before attained. That which we claim is the mode of carrying off the air, which before obstructed the ramming down the charge, and

caused the piece to miss or hang fire, by introducing an aperture not sufficiently large to admit the powder through it, but so small as to let that quantity of air escape, which ought to escape without the powder following it. By this invention the air passes through the groove in the seat of the hammer, and goes out at the small hole at the end. It is this in which we say our invention consists. He says all this was done long ago; that the old form was just as good; that the public have obtained nothing by the patent: then surely he comes into Court with a very bad grace, when he comes endeavouring to imitate that invention which he so traduces. Whatever may be the utility of this aperture, ours is the merit of the invention. We have been the first who have adopted an aperture to carry off the air, but not large enough to carry the powder through, or let the air come back in a humid state: the whole of their case goes to shew that this mode existed before our patent; but they have failed in their endeavour. If the principle existed without being known, that is no answer to our case; the attention of the public was never drawn to it till we took out our patent. As to the second patent, it is an invention, the effect of which is, to throw the shot higher: it is admitted that the specification might have been more philosophically expressed; it has been said, that it is calculated only for a distance of forty yards, and to leave you in ignorance, suppose you wanted to kill at fifty or sixty yards; but it is applicable to both these distances, or to any intermediate distances; you may adopt the principle according as you want to apply it. The specification takes the line of distance at forty yards as the average distance, being neither very long nor very short; if you want to kill at sixty yards, you must have the elevation accordingly; the true application is to be learnt by experience, and the specification is so drawn that any man may easily apply the principle. If these elevated tops are proved to have existed in the same state, and that nothing has been done but to give them a more regular disposition, certainly the patent cannot be supported.

Lord Chief Justice Gibbs.—This action is brought against the defendant, for having, as the plaintiff insists, violated two patents. Before I state the case, I will answer the question of my learned brother. He asks, why did the defendant, if he meant to rely on the old mode,

vary from it and assimilate his mode to the plaintiff's? The answer, if he is right on the merits, is this; I did it because I had a right so to do, because the principle of the old fashion prevented this from being a new invention, and therefore I have a right to avail myself of all the improvements he has made. In order to support a right to the exclusive enjoyment of any invention, it is necessary that the party who takes out the patent should shew that the invention is new, that it was unknown to the trade and to the world before, that it is not only new, but that it is useful to the public; and it is necessary likewise that he should shew that he has accurately explained the nature of his invention in his specification, separating that which is new from that which is old, so as to enable a person of tolerable skill to make the thing by means of his specification.

His invention to be patentable must be new-unknown to the public- & useful and the person to be sufficient must accurately describe if define it so as to enable competent persons to make the thing

I stated that there are two patents which the plaintiff complains of being violated,—the one with regard to the lock, and the other with regard to the elevated top-piece; and I should state that if this was ever practised before Mr. Joseph Manton took out his patent, he cannot support his patent for it, and it appears to me to have been proved beyond all doubt that this mode of varying the sight by means of an inclined plane has existed long before Joseph Manton's patent. It has been proved that long ago numberless guns upon this principle were sent to the East Indies; and that some were used in this country. There is no doubt that the gun produced by Colonel Berkeley was made long before Joseph Manton's patent was taken out; and if it was, then it appears that the mode of making guns upon this principle was well known, and that he could have no right to take out a patent for it as his own invention. In truth, it appears clear that guns upon this principle were made by John Manton, the brother of Joseph Manton, while Joseph was an apprentice to him. I have no scruple in saying, that if that gun was in use before the patent was taken out, Joseph Manton cannot support his patent for it as a new invention.

Then it remains to be considered whether the patent for the perforated lip and hammer can be supported: now it plainly appears that the lip was of an earlier date than Joseph Manton's patent. He does not pretend to have invented the lip, but he says that by the old mode a mis-

chief prevailed, which he has provided against, and that he has greatly improved the guns to which he has applied the invention, and they call witnesses to prove that this is a new and useful invention. The first witness, a man of considerable experience, had never seen any locks with the lips so perforated; *prima facie*, that is good evidence: but when the question is, whether this had existence previous to the patent, fifty witnesses proving that they never saw it before would be of no avail if one was called who had seen it and practised it; and if any one person has ever done the same thing, Joseph Manton cannot be entitled to his patent. It is admitted that John Manton has sold guns, which, if this patent can be supported, are in breach of it. The several gentlemen called as witnesses concur in saying, that after they applied this improvement of the perforated lip, the utility of which is that it lets out the air and not the powder, their guns went off easier, and never hung fire; and there is no contradiction to that part of the case: but the defendant insists that this invention, be it good or bad, useful or useless, is not new,—whatever may be its merits or demerits, the defendant says the invention is not the invention of the plaintiff. One witness is called who says that there was a hole in the lip of a hammer (which was produced) when he lived with Mr. Smith, a gunmaker, in 1802, and he swears that the hole was made in the lip for the purpose of preventing the obstruction in loading produced by the lip; now, if that was so, it prevents this from being a new invention. He states that lips were made with this hole at the time he lived with Mr. Smith, and although it passed through the solid part of the pan, yet it would be sufficient to prevent the claim of Joseph Manton from being an original one, because it would be an invention the principle of which was well known. He says Mr. Smith told him the hole was for the purpose of letting the air out of the barrel, and it would do away with Joseph Manton's patent. I may as well state now that Mr. Smith has been called to give this witness a direct contradiction, and to prove that he never did make this hole with a view to letting the air out, but that it was merely made for fixing a screw: if it was intended to receive a screw, there would be a worm; he says there was a worm, but that it had been bored out. The man swears most positively that there never was any screw or worm, or female screw, belonging to it; he says

it was to obviate the complaints with respect to the obstruction in loading. These two persons contradict each other in pretty direct terms. Smith states that he had no conversation with his man to the effect stated by him. Upon his cross-examination he says, he has often declared that this was not Joseph Manton's invention, but he states that was only with a view of recommending his own merchandise. He swears that he did not tell Mr. Cumden that he had actually made a perforated lip for the purpose of making the air pass through, thirteen years ago ; but Mr. Cumden is called to contradict him, so that I should think that a great deal of attention cannot be paid to the evidence of a man whose testimony is so deeply invaded as Smith's is ; but upon this part of the case it is material we should attend to the evidence of Mr. Furtado : he says he purchased a gun of Mr. Smith with some new principle, which was a hole facing the touch-hole, for the purpose of the wadding going down easy ; he says he purchased it on the representation of Mr. Smith that in other guns there was a difficulty in loading, which in this was removed by a hole facing the touch-hole. Now, Mr. Smith must have represented to him that he was selling him a gun in which the mischief was actually removed by the very means by which this patent professes to obviate the inconvenience. He will not pretend to say whether it was in 1802 or 1803 ; but he sold it again, because it did not answer the purpose for which he purchased it. It appears that Smith did sell him a gun upon the principle of excluding the air by means of a hole facing the touch-hole, but the case does not rest there. They bring a witness who produces a lock upon the same model as the locks which he says he made twenty-five, twenty-six, or twenty-seven years ago : he says he made it as nearly alike as he possibly could. You observe there is a lip, a hole, and a groove, and one of the former witnesses told you that the manner in which they made their pans before the plaintiff's patent was taken out, was by suffering the air to escape through a hole made for the purpose. If the evidence you have heard on the part of the defendant is correct, it follows that the principle of Joseph Manton's patent was made use of over and over again before his invention.

The witness tells you that he made a great many locks upon the principle of a perforated lip, and that he con-

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Wood et al v. Zimmer et al

tinued making them for three years together: he says that the hole and the groove were made for the issue of the air, so that the object of the plaintiff's patent and the means of effecting that object were well known. He tells you that the principle was well known twenty-five years ago; that they felt the evil complained of, and prevented it by a perforated lip that is in substance the thing for which Joseph Manton claims the merit of his invention.

The only question for your decision is, whether the invention for which Joseph Manton has taken out his patent for the improved gun-lock is a new invention. Certainly on the part of the plaintiff they call witnesses who are experienced in the trade, who had never seen anything of the kind, and that evidence launched their case; but on the part of the defendant, it appears to be clearly proved that the principle was a well-known principle. If any one man made these locks, and was in possession of the secret of making them upon the same principle as Joseph Manton's locks, there would be an end of the patent. You find Mr. Furtado purchasing a lock of the same description, and you find a man making locks of the same kind twenty-seven years ago. If so, this patent which Joseph Manton has taken out cannot have been for a new invention. It is for you who have heard the evidence, to say whether he be or be not the inventor of this lip with the perforation. If you think it was not practised before his patent, then he is entitled to your verdict; if you think the principle was well known, and that this man at Birmingham made locks of the same description, and on the same principle, twenty-seven years ago, in that case the defendant will be entitled to your verdict.

Verdict for defendant.

WOOD AND OTHERS v. ZIMMER AND OTHERS.

In the Court of Common Pleas.—July 1, 1815.

THIS was an issue out of Chancery directed to try whether a patent bearing date the 20th January, 1812, was or was not a valid patent on the 5th February, 1813,

Any one instance of public knowledge prior to the date of a patent sufficient to invalidate it

the day on which the defendants agreed to purchase the patent, but afterwards refused to complete the purchase. The plaintiffs were assignees of Vanurriel, Zink, and Co., and the patent in question had been sold by the bankrupts, before their bankruptcy, to the defendants.

The patent had been granted for a new mode of making verdigris, to be called "British imperial verdigris."*

* The specification was as follows:—

"To all to whom these presents shall come, &c.—Now know ye, that the said Jacob Zink does hereby declare the following to be an accurate and particular description of the composition invented by him, and of the method pursued, to prepare and make the same; that is to say: That the materials, the substances, and the ingredients with which it is prepared, chiefly consist of, 1. Pure copper; 2. Acid; 3. Alkali. That of these are made, first, a saturated solution of oxyd of sulphate of copper, and, secondly, a solution of either vegetable or mineral alkali; which two, properly combined and mixed together, will create and produce the superior verdigris, for the exclusive manufacture of which the said patent has been granted. That the first, the saturated solution of oxyd of sulphate of copper, is made by causing a furnace to be constructed, on which is placed an iron pot or vat, somewhat larger than another of copper, to be put into it; the latter, notwithstanding, so large as to contain 300 gallons of water. The dimensions of the iron to exceed that of the copper pot or vat inasmuch only, that on placing the last into the first a space is to be filled up or stuffed with sand, fixing in this manner firmly the copper into the iron vessel. This being properly filled up, take, first, from ten to twelve pounds of pure copper, cut small, or granulated, with thirty pounds of oil of vitriol, and put them in said boiler; then proceed to light the fire, and heat the furnace: on the oil of vitriol getting warm, add to it eight pounds of pure water, and let all these together foam up and boil till the requisite calcination becomes effected, and the matter in the boiler gets dry, which it will show itself to do by an apparent discontinuance of evaporation and when no more steam issues from it. Take then this prepared oxyd of sulphate out of the boiler, and go on with making as much more of it (after the manner above described) as will be sufficient to saturate a quantity of about 300 gallons of water, which water take care in the meantime to have at hand, in a proper tub, for the purpose of dissolving in it the oxyd of sulphate, which will be best done thus:—Suspend by a rope or pulley a sufficiently large piece of stout canvas, cut round and round (so as to fall rather concave), to a ring or hoop of copper, having an arm or handle of the same metal, to which the rope above is fastened. Lay on this apparatus the prepared powder, and let the same thus, by assistance of rope and pulley, be alternately plunged in, and drawn out of the water underneath, stirring the same continually. Having dissolved in this manner as much of the oxyd of sulphate as will saturate the stated quantity of water, the solutions will be prepared. The other is simply, that of 150 lbs. of alkali dissolved in about 300 gallons of water, for which take care likewise to procure in time a proper sized tub. Now, as already said, on bringing these two liquors together into one or more pails, so much of each as to equalize

The verdigris so produced was of a brighter green, and superior to the French verdigris. A chemist gave evidence to the utility and novelty of the invention; and a workman employed by the patentees proved that by following the directions in the specification, the manufacture might be produced; that he had manufactured it himself from the description.

The proofs in support of the defendants' case were the evidence of Mr. Vanurriel, one of the bankrupts, who deposed that the same article which was sold under the name of "British verdigris," and for which the patent had been obtained, had been previously sold under the title of "Dutch imperial green," the ingredients of which the two articles were composed being precisely the same: and he farther deposed, that Mr. Zink, the inventor, had purposely withheld one of the ingredients in the specification upon which the patent was procured, alleging, that "if he stated the whole the public would know the secret." This witness being called to state what the ingredient was, the

their respective strength, which is seen by the colour and appearance of the liquors, and known by experience only, and therefore cannot possibly be described, the result will prove that this mixture and combination creates and produces the wished-for article. However, it is then not yet perfect; it requires, after this its first creation, to be freed, first from the water it contains, next cleaned and purified, and, last of all, to be made perfectly dry. For the first purpose, it will save trouble and expense, if, instead of pails for mixing the two solutions together, there be used, when completing the production, a proper number of tubs, containing each ten gallons of water. Farther, that there be constructed an equal number of stools or stands, to the top of each of which there must be loosely fastened proportionate pieces of good stout canvass to lay the composition on; and through which the water adhering to the same, when first slooped out of the tubs, is strained, to facilitate which, the composition may, whilst laying on those drainers, be stirred about with a wooden spade. This done, replace the composition in the same tubs, and throw in each tub about six gallons of water, with which stir it about once more, in order to cleanse and also to free it from the alkali. This having been properly done, it must be spread a second time on the drainers, and stirred as before, till it is quite freed of all watery parts; when, finally, it must be put into canvass bags, covered over with flannel, and thus packed up. The remaining moisture is to be squeezed out as much as possible by means of a press; where, after being laid on boards or laths, exposed to the air, it is left to dry. Farther, the composition will become perfect, and prove, in quality and virtue, far superior to any manufactured in France, which has hitherto always been preferred and esteemed inimitable.—In witness whereof, &c.

"JACOB ZINK."

name of which was kept back, said he was bound in a penalty of 2,000*l.* to a gentleman named Smith, with whom he had entered into partnership, not to divulge it. The Court, however, said they would not suffer him to shelter himself under this shield, in a case where the interest of suitors was concerned; and he finally stated, that in addition to the articles contained in the specification, Mr. Zink used a certain proportion of aquafortis, which he always put into the boiler himself unknown to his workmen. The effect of this was to dissolve the copper more quickly and produce a finer green.

To this testimony was added the evidence of a gentleman named Shenstone, who proved that he had purchased some of the British verdigris from the bankrupts long before the patent was taken out.

The *Solicitor-General* and *Selwyn*, for the defendants, made two objections; first, the specification omits the aquafortis, which was a material ingredient, and always employed by the patentee in manufacturing the verdigris; secondly, the verdigris, under another name, had been publicly vended by the bankrupts previous to their obtaining this patent.

Sergeant Best, for the plaintiffs.—First, the specification is sufficient to make the verdigris; the aquafortis was no necessary ingredient. It did not improve the colour or save expense; it merely produced a more rapid solution of the copper. Secondly, though Zink sold the article before, that is to say, in August, 1811,—and the patent was not obtained till January, 1812,—he did not thereby forfeit his privilege in the invention. He might still obtain a patent; the discovery is still new; the invention is still his; and the secret locked in his own breast. Though sold in a few instances, the property was not rendered common whilst he kept the secret. The secret was not disclosed till the patent was obtained.

Chief Justice Gibbs.—The objections to this patent are, First, the omission of aquafortis in the specification. Secondly, that the article was not a new one at the time of the patent, inasmuch as the bankrupts sold it previously. They gave it to the world without a patent, and they cannot afterwards obtain a patent. It is said that this patent makes verdigris, and is therefore sufficient. The law is not so. A man who applies for a patent, and possesses a mode of carrying on that invention in the

Wood et al. v. Limmer et al.

Beaumont et al. v. George.

A patentee is bound to make it in his species the best made with which and labour as it costs the inventor himself. The price is a guarantee for any of his invention into effect. Any material advantage though his invention is void.

Invention must be new to the public

most beneficial manner, must disclose the means of producing it in equal perfection, and with as little expense and labour as it costs the inventor himself. The price that he pays for his patent is, that he will enable the public, at the expiration of his privilege, to make it in the same way, and with the same advantages. If anything which gives an advantageous operation to the thing invented be concealed, the specification is void. Now, though the specification should enable a person to make verdigris substantially as good without aquafortis as with it, still, inasmuch as it would be made with more labour by the omission of aquafortis, it is a prejudicial concealment, and a breach of the terms which the patentee makes with the public. With respect to the second objection, the question is somewhat new. Some things are obvious so soon as they are made public. Of others, the scientific world may possess itself by analysis. Some inventions almost baffle discovery. But to entitle a man to a patent, the invention must be new to the world. The public sale of that which is afterwards made the subject of a patent, though sold by the inventor only, makes the patent void. It is in evidence that a great quantity was sold in the course of four months before the patent was obtained, and that the bankrupts were in the habit of selling this manufacture.

His Lordship left two questions to the jury; first, whether aquafortis was used by the inventor as an ingredient in the verdigris; second, whether the invention was in public sale before the patent. In either case his Lordship thought the patent void.

The jury found both questions in the affirmative. Verdict for the defendants.

BEAUMONT AND OTHERS v. GEORGE.

In the Court of Chancery.—August 10, 1815.

THIS was an application for an order to dissolve an injunction which had been obtained to restrain the defendant from using a certain method of refining sugar, by which it had been alleged the patent rights of the plaintiffs were infringed. It appeared that a patent,

bearing date the 27th February, 1812, procured by a Mr. Constant, for a method of refining sugar* by the means

* The specification of this patent was as follows :—

“ To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said Louis Honoré Henry Germain Constant do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained as follows; that is to say: First, I do prepare the charcoal of wood by washing the same with water, which clears it of some impurities supposed to be of a smoky or oily nature, and I do then grossly powder the same along with a little water, by means of a mill or otherwise, and I do then grind the same very finely, with the addition of a considerable quantity of water, by means of a mustard mill or other similar well-known machinery or apparatus for grinding or levigating; and in this finely powdered state I do carefully wash the said charcoal, and draw off, decant, or separate the greatest part of the water by means of a filter or strainer or otherwise; and I do form the said charcoal, while in the consistence of a paste, into masses of any convenient size for keeping, but in preference about the size of a large cheese; and I do dry the same in the sun or by a moderate temperature, after which the same may be kept for use in casks or other fit packages; and, secondly, for clarifying or refining muscovado or clayed or soft sugars, I do charge my boiler with a sufficient quantity of water, or of water containing sugar, and after heating the same to a considerable degree, I do add the sugar intended to be clarified or refined, taking care, by due stirring or agitation, to prevent its burning to the bottom of the vessel; and so soon as the sugar so added hath been entirely dissolved, I examine the specific gravity of the solution by the floating instrument called the hydrometer, or by any other well-known means; and I do, by a due addition of more sugar or more water, as the case may require, bring the solution to that specific gravity which shall or may be best adapted to the process of clarifying or refining, as is hereinafter set forth and declared; and in order the more speedily and precisely to determine and express the specific gravities of such solutions of sugar, as from time to time I may have occasion to make, I do construct, use, and apply an hydrometer, made, by preference, of glass, with a bulb or ball, having a loaded part beneath and a cylindrical stem above; and I do make the said stem of such dimensions or degrees as to admit of forty equal divisions or degrees to be marked thereon, of such magnitude, with regard to the intervals or parts of the stem between each several division or degree, and the division or degree next and immediately contiguous or adjacent thereto, that every one of the said intervals or parts shall respectively be equal in bulk to one two hundred and twenty-sixth part of the bulk of the whole immersed part of the said hydrometer, when floated in pure water; and I do so adjust my counterpoise, and do so number the said divisions or degrees, that the uppermost stroke or mark of division shall be numbered 0, and shall coincide with the surface of pure water when the instrument shall be suffered to float therein; and that the stroke next following beneath the said uppermost stroke shall be numbered 1, and shall coincide in like manner with the surface of an heavier fluid than water; and the next lower stroke beneath the last-

of wood or other vegetable charcoal, had been purchased by Messrs. Beaumont and Wackerback; that another

mentioned stroke shall be numbered 2, and that the successive strokes shall be regularly numbered 3, 4, 5, 6, and so forth as far as 40; and I do declare, that whereas the principles and method of constructing hydrometers or floating instruments are well known, and the forms and relations of the parts thereof are susceptible of great variation, I have described the hydrometer I make use of, not because or in consequence of any supposition that the same is or may be the only instrument which can or may be used in my said method, but because the same is preferred by me, and my descriptions herein set forth as to the expression of specific gravities are adapted thereto, and that I do accordingly consider it to be unnecessary for me to give any more particular instructions concerning the same; and, further, that in the clarifying or refining of soft sugars, in case the same be of ordinary or coarse quality, I bring the boiling syrup to the strength or specific gravity of twenty-eight degrees of my hydrometer, or in case the sugar be of good quality, I bring the boiling syrup to thirty degrees, or in case the sugar be clayed or white, I bring it to thirty-two degrees. And I do declare, that the utility and advantage of regulating the specific gravity of the syrups as aforesaid, do arise from the considerations, that in case the syrup were too thick or heavy, the clarifying, by means of the prepared charcoal as hereinafter directed, would prove less efficacious; and that in case the syrup were too thin or light, it would be needful to evaporate for a longer time than otherwise, and the said continuance of evaporation would more or less injure the colour and beauty of the sugar when clarified; and further, that as soon as the syrup shall have been made and brought to the proper specific gravity as aforesaid, I do add to the boiling fluid a quantity of charcoal, prepared and pulverized as hereinbefore directed, to the amount of from five to ten pounds of charcoal for every hundred-weight of sugar, which shall or may have been so dissolved in the water in the boiler; and that I do take care to use a greater quantity of charcoal for coarser sugars than for such as may be finer, and that in this particular the operator cannot fail to succeed, although his judgment and knowledge with regard to the quantities of prepared charcoal to be used with the different qualities of sugar will necessarily improve by practice, and it is not possible by written instructions to point out such smaller variations in the processes as will by such practice be so indicated. And further, that I do stir up and mix well together the said charcoal and the syrup, and thereupon, I do allow the same to repose for a short time, and then do urge the fire in order to make the syrup boil up as speedily as possible; and that when the same shall have arisen by ebullition, and arrived nearly to the point of boiling over, I pour in the usual finings of white of eggs or blood, or other albuminous material, and do well and effectually mix and agitate the same, after which I again cause the syrup to rise by ebullition, in order that the coagulated albumen may rise in the form of scum along with the charcoal and the impurities of the sugar; and, upon this event having taken place, I allow the whole to remain at rest in a very gentle heat; and that so soon as the charcoal has accurately risen to the surface, I skim off the same, and when no more charcoal appears to remain, I do carefully filter the syrup; and,

patent, bearing date the 8th May, 1815, had been subsequently obtained by Messrs. Martineau [for Specifi-

moreover, that so soon as the quantity of Muscovado, or other soft sugar intended to be clarified, shall have been treated as aforesaid, I collect all the charcoal obtained from the skimmings, and do add thereto a sufficient quantity of water, to allow the same to be well heated, with continual stirring to prevent its catching or burning to the bottom, and after the same has risen by boiling, I do put out the fire and throw the charcoal upon the filter to separate the weak syrup; and when this last has been well separated, I wash the charcoal in pure water made boiling hot in the boiler, and I do make use of this water in the subsequent processes of solution and clarifying of sugars. And I do further declare, that in case it should, from any cause or circumstance, be inconvenient to wash the charcoal immediately after filtration, no change will take place, by fermentation or otherwise, during the space of one month, if the same should be kept so long. And I do further declare, that as part of my said invention or method, I have constructed and do use a furnace for heating, boiling, and evaporating syrups, in which I do not only avail myself of doors and registers to the grate, chimney, and ash-hole, as used in other works for regulating, damping, or extinguishing the fire; but I do also in particular, and as a peculiar and important part of my said invention, construct and use a plate of metal, or other fit material, which can be slid or moved in and out of the fire-place, or otherwise changed as to the situation thereof, by motion upon bearers or slides, or rollers, or trucks, or wheels, or other similar supports, or upon a joint or axis, or pin, so that the same plate shall, when requisite and needful, be suddenly interposed between the bottom of the boiler and the fire or burning fuel, and shall immediately suspend or prevent the effect of the heat upon the contents of the said boiler, and in like manner, by a contrary or different motion, shall at pleasure be withdrawn, or restored to the former or original position or situation thereof; and shall again immediately allow the fire or burning fuel to exert its action against the bottom of the said boiler, and upon the contents thereof as before. And I do further declare, that the chief advantages of that part of my said invention, which consists in the use of the said improvements in furnaces, are described as follows; namely, that whereas, notwithstanding the care and attention which may be bestowed in separating the charcoal, by skimming and filtering, as hereinbefore described, a minute proportion of charcoal, in extremely fine particles, will nevertheless become perceptible during the subsequent evaporation of the clarified syrup which will rise to the surface: now as soon as the whole thereof shall be observed to have arisen, I do check the action of my fire by means of the doors or registers, and of the plate before-mentioned; and when the syrup shall have become tranquil, and remained so for a few minutes, I do skim off the said charcoal and every other impurity which may have escaped the filter. And further, that whereas by the draining of the sugars, or in the subsequent refining or bleaching, by claying or otherwise, the syrups which flow out must unavoidably remain in the pots for a considerable time, and a certain degree of fermentation or spontaneous change is found to take place during such interval of time, by means of which a white scum of

cation see *note*, p. 299, *post*], for effecting the same purpose by means of animal charcoal, that is, charcoal

considerable acidity and offensive smell is produced, which cannot, in the ordinary process of evaporation, be sufficiently or effectually separated; now in my said method, as soon as the first boiling up hath taken place, by means of which the said white acid and offensive matter arises to the surface, I do check my fire, and the effect thereof as aforesaid, and do suffer the lump to become and remain tranquil for a minute or two, and I do then skim off all the said white and offensive matter, and such other impurities (if any) as may appear upon the surface of the syrup; and by this means the syrup is prevented from showing any further signs of effervescence, and the grain of the sugar is rendered more beautiful and the sugar finer, and a much more clear, delicate, and agreeable flavour than when refined in the common way; and further, that in the ordinary process of evaporating syrups, it has been found expedient and necessary, whenever the fluid rises suddenly so as to endanger the boiling over, to throw in a piece of butter or grease, which has the effect of checking the boiling, but is injurious to crystallization, and also to the flavour and smell of the sugars; now I do, in my said method, entirely avoid the said inconvenience, and do check the boiling, whenever the same may be required, by means of the doors and registers, and more especially of the plate, as hereinbefore described and directed; and, thirdly, with regard to the refining of sugars in lumps, pieces, or loaves, instead of the old method of claying, I do effect and perform the same by gradual percolation of my purified syrup cold through the said sugars, in order to clear out the coloured syrup or molasses which occupies the interstices between the crystals of the sugar at the first formation thereof; and I do declare, that it is of importance that the syrup made use of for the percolation should be of a proper strength or specific gravity, because a syrup of too great strength or specific gravity would not flow with the best advantage, and a syrup of too little strength or specific gravity would dissolve a part of the crystals themselves, and thereby make cavities in the mass of sugar through which the syrup would principally run, and the sugar not only be rendered of an uncertain and irregular texture or appearance, but would likewise be impeded or prevented from obtaining the required degree of purification. And further, I do declare, that for cassonades and other white sugars, the cold syrup for percolation must have a strength of thirty-eight degrees, and that, if the sugar be close grained, the syrup must be of the strength from thirty-seven degrees and a-quarter to thirty-seven degrees and a-half; but that if the sugar be light and open grained, the syrup must be used at thirty-eight degrees. And further, that when the loaves of sugar are to be refined or bleached, the upper part of the loaf, commonly called the fountain, must be taken off as usual with a knife, or other fit instrument, until the sugar appears solid and firm, and the same then turned upside down in and along with its pot or mould; and after an hour, or more or less, according to the quality of the sugar, I strike or tap the same upon the block, in order to separate the loaf from its mould, and do close the aperture which is at the point of the mould with a piece or plug of rag; and thereafter I do replace the loaf (still in its mould) with the point downwards, as fairly upright as possible, and do suffer the syrup (naturally

George.

produced from the burning of bones or other animal substances; and that these defendants had finally agreed,

included therein) by that means to return to the point of the loaf, and do afterwards pour on a due quantity of my white purified syrup, which I take care to have more or less in quantity, and even purity, according to the nature of the sugar-loaf to be refined; that is to say: if the sugar be already very fine, I add only a small quantity of the whitest syrup, but if the sugar be yellower, I use a larger quantity of syrup, which may be of an inferior quality, as hereinafter mentioned; and at the expiration of from twenty-four to forty-eight hours, accordingly as the sugar may have been more or less fine at first, I do take out the plug of rag, and suffer the yellow or dark coloured syrup to flow out at the same time that it becomes replaced by the white syrup, and the sugar is thereby rendered either perfectly fine or greatly improved, according to the description of sugar and the process made use of. And I do further declare, that it is practicable, by my said method, to bleach and refine all sugars without being obliged to turn or agitate them, or to put in a plug as before described; but that in this case there would be danger of spots and irregularity of colour in such sugar-loaves near to the point, as might originally have been of a dark colour; and also, that the flowing out of the first syrup might render the loaf porous and allow the white syrup to pass readily through the larger passages or pores instead of performing its office of driving the yellow syrup before it, and completely refining the sugar as was intended to be done. And further, that I do use and apply the syrup, which shall or may have been used in the purifying, by percolation of white sugars of good quality, to purify in like manner the lumps or masses of sugar which shall or may have been obtained in the first instance from my syrups, which have been purified by means of prepared charcoal in the boiler as before directed and set forth. And further, that I do use and apply the syrups, which shall or may have been used in the purifying by percolation of the sugars royal, or sugars of the finest quality, to purify in like manner very good common sugars; and that the syrups obtained from this last mentioned percolation may, in like manner, be used in purifying the said lumps, so that the same syrup may be employed in three operations, and afterwards, without further preparation, may be boiled to be manufactured into lumps. And, lastly, that in the act or operation of filtering of the syrups hereinbefore mentioned and directed to be performed, I do find it very convenient to support the filter or filtering cloth upon or within a basket expressly made of a convenient size and figure for that purpose, and that I do place the filter so supported upon certain bars or supports fixed across a suitable trough or vessel, having a pipe and cock from the lower part thereof, for the purpose and intention of keeping the first runnings (which are less clear) from the subsequent clear runnings, and of returning the said first runnings again to the filter, as is usual to be done in operations of this or the like nature.—In witness whereof, &c.

“ L. H. H. G. CONSTANT.”

The Specification of the Patent granted to Messrs. Martineau :—

“ To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, we the said Peter Martineau and John Martineau do declare that the vegetable substance to which

for their mutual interests, to unite their patents. It had been set forth, as the ground of the injunction,

we have particularly applied this invention is sugar, or sugar more or less dissolved in water, for the purpose of clarifying or refining it, though the said invention will apply to other vegetable substances, and in particular to such vegetable acids as are usually prepared or manufactured in a crystallized state. And we declare, that if our invention, so far as relates to animal charcoal, be applied to these acids or other vegetable substances, the process to be employed should be the same as is hereafter described, excepting only, that as blood may be advantageously used in refining sugar, it is not necessary for refining other substances from which the articles we employ may be separated by filtering in common and well-known methods. And we hereby declare, that the nature of our said invention, and the manner in which the same is to be performed, are particularly described and ascertained as follows. The articles we employ for purifying and clarifying sugar are, firstly, animal charcoal; that is to say, animal substances, properly burnt or charred, or calcined, whatever denomination the said charcoal may have obtained, as ivory black, bone, ash, &c., and afterwards reduced into smaller pieces or powder. Secondly; bituminous earths, commonly called coals, either in the state in which they are mined, or articles of their products after fusion, and reduced as aforementioned. Thirdly; certain argillaceous earths, known by the name of ochres. Fourthly; the vegetable charcoal, usually called lamp-black: we, however, generally prefer the use of the first-mentioned articles in the process of refining and clarifying sugar, which we find renders the sugar so clarified much whiter than by the heretofore common method of clarifying. Now, although the manner of applying the above-mentioned substances in the refining of sugar may be greatly varied, yet the following method we prefer. We do charge or fill our boilers or pans with sugar and water, or lime water, as in the common and well-known methods of refining sugar, only sometimes preferring to add a little more water or lime water than in the common mode of refining, as it generally more easily and effectually separates the animal charcoal, or other substances, from the liquid sugar. And we also add to the above sugar and water in the boiler, a quantity of the substances before mentioned, in any quantity, according to the quality of the sugar to be refined or clarified, though we generally prefer two to five pounds of charcoal or earths before mentioned, to and for every hundred weight of sugar to be clarified or refined. And, farther, we do pour into the boiler the usual finings of eggs, blood, or other albuminous matter, in rather larger quantities than in the usual mode of refining, in order in some degree to coagulate and combine the animal charcoal, or other substances, with the dirt contained in the sugar. We do now well stir up and agitate the liquor in the boiler, in order that the animal charcoal or other substances may have the greater effect in blanching the liquor. And after the coagulated albumen has completely risen in the form of scum by the application of heat, in the usual way, we either skim it off, as in the common process, or we do pour the whole of the liquid sugar and scum into and upon the usual or any other known filter where this clarified liquor is completely separated from the albuminous matter, as well as from the animal charcoal, or other substances employed, taking

that Mr. George, pretending to treat with the present defendants about the purchase of a license from them for practising their mode of refining sugar, had watched the process in their manufacturing houses, and afterwards, without license, put it in practice for his own advantage, and to the manifest injury of their patent rights.

Mr. Bell, who opened the case for the defendants, contended that the patents themselves were not good, the process of refining by means of charcoal being no new invention, but had been particularly described in the "Repertory of Arts," published in February, 1813, long anterior to the date of the second patent, and had been practised by himself three months before the earlier of the patents, as had been testified by the affidavits of his two sons and four labourers. Under such circumstances, the Learned Counsel hoped his Lordship would dissolve the injunction.

Mr. Samuel Romilly, for the plaintiffs.—As to the defence set up by Mr. George, that he had collected his knowledge from the "Repertory of Arts,"* it was very

care to return back into the filter the first runnings of the said liquor, if not quite separated from the above substance used. And, farther, we do proceed in the well-known and usual manner to evaporate, granulate, and refine the said liquid sugar so clarified. And, farther, we do boil over and filter our scum in the usual manner. And we do farther declare, that the sugar so clarified and refined is preferable to sugar refined in the heretofore common mode, inasmuch as it is purer and whiter. And we farther declare, that the syrups obtained by this process have not that tendency to ferment which the syrups have which are produced in the heretofore usual method.—In witness whereof, &c.

"PETER MARTINEAU.

"JOHN MARTINEAU."

* The following is the publication referred to:—

"On the decolouration of vinegar, and a new process for depriving this acid and other vegetable liquids of their colour, by means of animal charcoal. By M. FIGUIER. From the '*Annales de Chimie*.'

"In the course of my experiments for destroying the colour of vegetable liquids by means of charcoal, I have discovered that animal charcoal possesses the property of decolouring several of them in a greater degree than the vegetable charcoal. I shall not relate the numerous experiments I have made to this end; I shall only describe the process that must be followed, in order to effect the entire decolouration of the liquids that have occupied my attention; thus, in order to take away the colour of vinegar, a litre of the red sort cold, is mixed in a glass vessel with forty-five grammes of bone charcoal, obtained in the manner hereafter described; this mixture is shaken from time to time, and at the end of twenty-four hours it is perceptible that the vinegar begins to whiten; in two or three days its colour is

strange that he should have suffered two years to elapse before he made any use of the process. But by his own account, the experiments which he had made with charcoal in the refinement of sugar were abortive, until he had improved his practice, not by the Repertory, but by means of what he was permitted to see in the manufactories of the plaintiffs, while he was pretending to negotiate with them for a license.

Mr. Hart, on the same side, observed, that *Mr. George* did not deny that he had been infringing on the patents,

entirely gone, and when filtered through paper it passes perfectly transparent, and as colourless as water, without losing any of its taste, smell, or acidity. When the decolouration is to be effected in the large way, the animal charcoal is thrown into a cask containing vinegar, and care is taken to stir the vinegar in order to renew the points of contact: it is not necessary to employ so great a quantity in proportion for the large way as for the small; one-half is sufficient; the colour in such case disappears less instantaneously, but the operation is equally certain; and whatever length of time the vinegar is left in contact with the charcoal, it never contracts any smell or taste that is foreign to it. I have kept similar mixtures by me for several months, and the acid has not suffered the least alteration. If the vinegar is intended to retain a little of the colour, the proportion of charcoal may be reduced.

"The charcoal is prepared in the following manner:—I take the most compact part of ox and sheep bones, and fill a crucible with them; I carefully lute the cover, leaving only a small opening at the top; the crucible thus prepared, I place in a forge furnace, and heat it gradually until it is red; when the flame that is produced by the combustion of the oily and gelatinous parts of the bones has ceased, I diminish the opening in the lid, and suddenly increase the fire; it then evolves carburetted hydrogen gas and oxycarburet; when it is cool, I unlute the crucible, and reduce the charcoal on porphyry to a very fine powder. I have observed, that the decolouring action of animal charcoal, thus obtained, is powerful in proportion to the care that is taken in its preparation and in its pulverization.

"Ivory black, as well as bone black, has the property of destroying the colour of vinegar, wine, and the residuum of ether; both lose this property after being employed for this purpose; but it may be revived in them by heating them strongly in a closed vessel. It is true that the decolouring action is less powerful, but it is still strong enough to effect the decolouration completely, when the mixture is left in contact for several days or more.

"All the experiments here related have been repeated with wood charcoal, previously washed, calcined, and carefully pulverized. The decolouration of the above-mentioned liquids by this charcoal was almost insensible; whence it results, that animal charcoal possesses the decolouring property in an infinitely greater degree than the vegetable charcoal, an important fact which has not hitherto been observed, and which may be employed in numerous and useful applications to the chemical arts."

contending only that the same materials had been used for the same purpose before; but, as to his having acquired his knowledge from the source suggested, the plea was absurd and inconsistent with his own testimony. In November, 1814, it was plain, by his correspondence with Mr. Hudson, that he had no such knowledge. In consequence of what that gentleman had imparted to him, he says, in a letter to Mr. Hudson, that he had tried the experiment of refining by charcoal, but failed. He then observes, that the failure might be owing to his using lime-water instead of pure water. It was strange that he could be thus ignorant of a process with which he professes himself to have been before familiar. Mr. Hudson, in his reply, omitted any notice of what had been said; but warned Mr. George not to infringe on the patents. As to what had been said on the subject of charcoal in the "Repertory," it referred not to the clarification of sugar, but to the qualifying of acids; and with respect to the originality of the invention, it was not necessary that every part of a new and useful invention should be such as had never existed before. A knife was necessary to shear cloth; but a knife might be contrived of a new form and construction, which would do the work much better than a common knife, and might on that account entitle the contriver to the rights of a patentee. It was not the principle, but the application of the principle, that must be new.

Mr. Leach, on the same side, referred to a former case, in which his Lordship had laid it down as a rule, that the novelty which was required in the title to a patent lay in the new and useful application of a principle, whether the principle itself was then first advanced or not. It was plain that in May, when Mr. George was negotiating about a license, he was quite ignorant of the process and principle, and so expressed himself to Mr. Wackerback and others, to whom he mentioned his surprise and astonishment at the effects which they allowed him to witness. His taking advantage of what he had been permitted to see, under the pretext of taking up a license, was a gross fraud.

The Lord Chancellor (Eldon) had been of opinion that patentees were rather hardly dealt by, though he knew there were some sound opinions at variance with

invented a machine for manufacturing lace, or net, similar to Buckinghamshire lace made by bobbins on pillows by hand, and afterwards obtained his Majesty's letters patent for the sole and exclusive use of such machinery, on the condition that the invention was new in this country. The plaintiff must, therefore, be considered by his bill, as making lace by a machine which in itself was new, but he had not stated to the Court that he had entered a specification of his machinery. The bill was totally silent on this subject, and the Court, he conceived, had been surprised in granting the injunction. The bill then stated, that the defendants at Nottingham had been violating the patent by making lace by machinery similar to, or the same as, that of the plaintiff, but if it should appear to the Court, by incontestable evidence, that the plaintiff's machinery was not a new invention, he had not stated sufficient ground for granting the injunction against the defendants. In his affidavit the plaintiff stated, not that he had invented particular machinery different from that which had been used before for making lace, but that he was the inventor of a machine for manufacturing lace similar to Buckinghamshire lace, or French net; but the injunction ought not to have been granted on the affidavit of the party, but on the allegations of the bill supported by affidavit. The answer of the defendants denied the plaintiff's title from beginning to end; it insisted, that he was not the first inventor of this machine for making lace, as the art of manufacturing lace by such machine had been known long before 1811, and had been used by other manufacturers, and the right to use it was common to all persons; consequently, the patent was void in law. A patent had been granted for this purpose in 1809 to Mr. Heathcoat, and the plaintiff was still in possession of the model of a machine which had been used long before he obtained his patent. The defendants admitted that they and several other persons had been making lace by a machine, but the defendants' machine was constructed in part similar to those of other manufacturers, while the other part was kept secret by them for the benefits of their trade. They denied that they had infringed the plaintiff's patent, and contended that the plaintiff was incapable of making lace according to his specification as enrolled. The plaintiff, however, had been extremely negligent in not applying sooner to the Court. In June

last he had objected to the defendants making lace by his machine, but the defendants insisted that they had a right to manufacture it; the plaintiff then stated, that as the lace trade was in an indifferent state, he would defer his attacks on the defendants, and it was only in August that he applied *ex parte* for the injunction.

Sir Samuel Romilly hoped that his Lordship would see no reason, even on the statement of the gentleman on the other side, to dissolve the injunction. The defendants' answer was most evasive from beginning to end, and the plaintiff was clearly entitled to maintain the injunction. The defendants' misconception of the bill was altogether voluntary. A man could not have a patent for making lace by machinery; it must be by a particular machine, and such was the patent which the plaintiff had obtained. The defendants had endeavoured to impose on the Court by their answer; the plaintiff had only stated that he had invented a machine, and not that he was the inventor of the art of making lace by machinery. It was not necessary that the bill should state that he had given in a specification, but the plaintiff had described the component parts of his machine in the specification enrolled. The affidavit stated the peculiarities of his machinery: the warp threads were made to traverse across the work diagonally, whereas, in other machines they went perpendicularly. It was of no importance whether the plaintiff was manufacturing lace according to his specification or not, he might have made subsequent improvements, and no other person had a right to use his patent though he did not use it. This was perfectly clear in the law of patents. If the plaintiff had been so negligent as the gentleman on the other side had stated, the Court would not have granted the injunction, but left him to an action at law. The defendants admitted that they had manufactured lace by a machine, and that the plaintiff knew the fact, but they did not say that the plaintiff was aware of their using the same machinery as his. The plaintiff did not know that the defendants were violating his patent right, and the defendants had sheltered themselves under an evasion which they would not have adopted if they had not been conscious that they were infringing the patent.

Lord Chancellor (Eldon).—The injunction was granted, as stated, late in the year; it was neither the fault of the

counsel who applied for it, nor of the Court who granted it. With respect to the merits of this application, I have read the bill very carefully, and will pay the same attention to the answer which has been matter of discussion at the bar. When the application was made for the injunction, there was a very detailed statement of the bill given. The plaintiff stated that he was entitled to a patent, and it never occurred to me that the plaintiff intended to say that his patent was granted for machinery generally. No such patent could be granted; but if the terms of it had been such, instead of being for a particular machine, I should at once have said, that he could not exclude the ingenuity of mankind for fourteen years from the art of making lace by machinery. It has been said, that the bill mentioned nothing about the specification; it was unnecessary, however, to set down the specification in *hæc verba* since it was enrolled on the records of the Court itself. It was enough to say that there existed a specification; and if there was a specification it could be at once inspected. The bill, however, loose as it is, has put that point out of question. At this time of day we are supposed to be much improved in our proceedings, but Lord Kenyon would have been very angry if such a bill had come before him. The answer must be carefully perused, to see whether the defendants meant to quarrel with the notion of machinery in general, or intended to admit that it was a patent for a new machine, or new component parts added to those which the public knew before. I will inform you tomorrow morning whether it is necessary to say more on the subject.

November 22.

The *Lord Chancellor* ordered the injunction to be continued, and an action at law forthwith to be brought and tried; and that the plaintiff in the suit should, by his witnesses, have an opportunity of seeing the construction and mode of working of the defendants' machinery.*

* The validity of this patent was tried in the case of *Bovill v. Moore and others*, post p. 320, and decided to be bad at law.

MACFARLAND *v.* PRICE.

In the King's Bench.—February 20, 1816.

THIS was an action upon the case for infringing a patent. The patent was described generally as a patent for certain improvements in the making of umbrellas and parasols. The specification professed to set out the improvements as specified in certain descriptions and drawings annexed.*

* The specification was in the following words:—

"To all to whom these presents shall come, we, Malcolm M'Gregor, of Bell-yard, Carey-street, in the county of Middlesex, musical instrument maker, and William M'Farland, of the Strand, in the county of Middlesex, umbrella manufacturer, send greeting. Whereas his most excellent Majesty, King George the Third, did by his letters patent, under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster the 29th day of December, in the forty-ninth year of his reign, give and grant unto us, the said Malcolm M'Gregor and William M'Farland, our executors, administrators, and assigns, his especial license, full power, sole privilege, and authority, that we, the said Malcolm M'Gregor and William M'Farland, our executors, administrators, and assigns, should, and lawfully might, during the term of years therein mentioned, make, use, exercise, and vend, within England, Wales, and the town of Berwick-upon-Tweed, our invention of certain improvements in the construction of umbrellas and parasols, in which said letters patent is contained a proviso, obliging us, the said Malcolm M'Gregor and William M'Farland, or one of us, by an instrument in writing under our hands and seals, or under the hand and seal of one of us, to cause a particular description of the nature of our said invention, and in what manner the same is to be performed, to be enrolled in his Majesty's High Court of Chancery, within one calendar month next, and immediately after the date of the said recited letters patent, as in and by the same relation being thereunto had may more fully and at large appear. Now, know ye, that in compliance with the said proviso, we, the said Malcolm M'Gregor and William M'Farland, do hereby declare that our said invention is described in and by the drawings hereunto annexed; and the following description thereof (that is to say), *a*, represents the umbrella when shut up in the case to be used as a walking stick; *b*, the umbrella drawn out of the case preparatory to its being affixed thereon; *c*, the umbrella with the umbrageous part extended ready for use; *d* shows the umbrella may be let down upon the case as occasion may require. Fig. 2 represents an umbrella when folded up for the purpose of the pocket, or packing conveniently in a case or box. Fig. 3, *e*, represents a parasol with the handle shut up in the umbrageous part. *f*, the handle pulled down preparatory to the umbrageous part being extended. *g*, the umbrageous part extended by pulling the runner down, the same contains ten or more stretchers and ribs; the covering may be made without a seam in the quarters. Section 1, represents the spear or tube when drawn out of the case or stick preparatory to the runner and umbrageous part being affixed thereon; the same may be made of various forms, as round, square, or triangular, and used as a

It was objected by *Mr. Topping* for the defendant, that the specification made no distinction between those things which were old and those which were new, therefore

weapon of defence, there being a spring to prevent its running into the case or stick when used. Umbrellas may be fixed upon sticks without a spear or tube with a long runner. Section 2, the manner in which the runner and umbrageous part acts upon the spear or tube described in section 1, by representing the runner and one of the ribs and stretchers affixed thereon, the umbrageous part is extended by pulling the runner down; to let it down on the case or stick, it is pushed the reverse; the bottom part of the case or stick is affixed to the part of the spear or tube which goes through the top piece that contains the ribs, the part of the ribs, from the top piece down to where the stretchers are affixed, is made of bone; the other part, to the extremity, is made of steel, or any other metal that will answer the purpose. Section 3, the top piece that contains the ribs and top parts of the runner and stretchers; the runner slips on the tube represented in the top piece, which has a cavity or chamber to receive the ends of the runner and stretchers, that they may be their proper length to bring the umbrageous part to its proper pitch. Section 4, the cap which covers the top part of the silk or covering, which contains a screw from the top part of the case or stick to fix on, for the purpose of pulling the umbrella out of the said case or stick. Section 5, the form of the stretcher and ferrel which join the bone and steel of the ribs, the stretchers have a small knob on the side, which acts in the cut represented in the ferrel; where the bone and steel of the ribs are joined, there is a mortice made in the bone the size of the cut in the ferrel, for the knobs of the stretchers to act in; the steel part of the ribs is screwed in the ferrel. Section 6, represents the top piece, runner, stretcher, and one of the ribs of fig. 2; it acts the same as described in sections 2 and 3, with the addition of there being a joint in the ribs, they may be affixed to sticks of different descriptions. Section 7, represents the top piece, handle, and one of the ribs and stretchers of a folding umbrella, with the handle shut up over the runner and part where it acts upon. Section 8, the handle, when pulled down, of the runner and one of the ribs, at full length. Section 9, the runner which acts upon the part which runs into the handle. Section 10, the part which the runner acts upon, at the bottom end of which there is a stop to prevent it turning round or pulling out of the handle when drawn out to its proper length; the top part of it that fixes in the top piece is bone, or any other fit material. Section 11, the handle which contains the runner and part which it acts upon, the top part of which has a cut in it, where a spring may act to prevent its running into the handle while pulling the runner to extend the umbrageous part, the same may be prevented by placing the thumb upon the cut in the top part of the handle, which will serve the same purpose as a spring. Fig. 3, the sections are the same as described in sections 7, 8, 9, 10, 11, with exception of there being no joint in the ribs. Parasols on the same principle may be put upon sticks of different descriptions. We make the above described umbrellas and parasols of any other proper metals or materials.—In witness whereof, &c.

"MALCOLM MACGREGOR.

"WM. MACFARLAND."

every thing in the specification must be taken to be claimed as the patented invention; and it would be evident, that many things shown and described were old, the patent was therefore void.

The *Attorney-General* for the plaintiff contended that the specification was sufficient, since one of the annexed drawings contained a representation of the particular invention which had been pirated, and was confined to the exhibition of the insertion of the knobbed stretchers in the whalebone sockets, from which an artist would be able to construct an umbrella on the improved plan.

Lord Ellenborough.—The patentee in his specification ought to inform the person who consults it what is new and what is old. He should say my improvement consists in this, describing it by words if he can, or if not, by reference to figures. But here the improvement is neither described by words nor figures, and it would not be in the wit of man, unless he were previously acquainted with the construction of the instrument, to say what was new and what was old. The specification states that the improved construction was made in manner following: this is not true, since the description comprises that which is old, as well as that which is new. Then it is said that the patentee may put in aid the figures, but how can it be collected from the whole of these in what the improvement consists. A person ought to be warned by the specification against the use of the particular invention; but it would exceed the wit of man to discover from what he is warned in a case like this.*

There ought to be a distinction between new & old parts

There ought to be a public warning in fixing the particular invention

LORD COCHRANE v. SMETHURST.

In the Court of King's Bench.—February 22, 1816.

THIS was an action brought under an order of the Lord Chancellor, to try the validity of a patent granted to the

* This case was cited by the defendant's counsel, in *Russell v. Cowley and others*, tried before Lord Lyndhurst (hereafter given), when his Lordship intimated an opinion that the above was an extreme case, and stated, that "if you take the whole instrument together, and the ordinary knowledge which persons have previously of that, and it is quite clear what is claimed, it is sufficient."—W. C.

plaintiff, dated 3d March, 53 Geo. III., for "A method or methods of more completely lighting cities, towns, and villages," and an alleged infringement by the defendant.

Mr. Attorney-General (Garrow) for the plaintiff, stated, that Lord Cochrane had invented some very important and useful improvements upon street lamps, which he showed in confidence to the defendant. Lord Cochrane desired secrecy, wishing to obtain patents for Scotland and Ireland, his English patent only having been completed; defendant then said that he would undertake to make the lamp himself, and it should be ready in a couple of days. When the plaintiff called at the time appointed, defendant said the lamp was not quite ready; he had intrusted it to his foreman, who was going on with it as fast as possible; whereupon the plaintiff expressed much surprise and fear of the invention being communicated, as the Scotch and Irish patents were not sealed: defendant said he was a trust-worthy, honest man, and there was no danger, as he had bound him in a penalty, by a written agreement, not to divulge it. When the trial was made between a common street lamp and the lamp manufactured under the plaintiff's direction, no objection was made to its novelty, the only objection was to the increased consumption of oil. The Attorney-General then explained the principle of the construction of Lord Cochrane's lamps,* stating that

* The specification was as follows:—

"To all to whom these presents shall come, &c., &c.—I, the Right Honourable Sir Thomas Cochrane, Knight of the Most Honourable Order of the Bath, and commonly called Lord Cochrane, send greeting. Whereas his Most Excellent Majesty King George the Third, by his Royal Letters Patent, under the Great Seal of Great Britain, and bearing date at Westminster, the third day of March, in the fifty-third year of his reign, did give and grant unto me, the said Sir Thomas Cochrane, commonly called Lord Cochrane, my executors, administrators, and assigns, his especial license, full power, sole privilege, and authority, during the term of fourteen years from the date thereof, by myself, or themselves, or by mine or their deputy, or deputies, servants, or agents, or such others as I or they should at any time agree with, and no others, to make, use, exercise, and vend, within that part of Great Britain and Ireland, called England, the dominion of Wales, and town of Berwick-upon-Tweed, my invention of 'A method, or methods, of more completely lighting cities, towns, and villages', in such manner as to me, the said Sir Thomas Cochrane, commonly called Lord Cochrane, my executors, administrators, or assigns, shall in mine or their discretion seem meet. But subject, nevertheless, to a proviso, or condi-

there must be a current of pure air, but a current of air was no part of Lord Cochrane's invention; the placing

tion, contained in the said letters patent, that if I, the said Sir Thomas Cochrane, commonly called Lord Cochrane, should not particularly describe and ascertain the nature of my said invention, and in what manner the same was to be performed by an instrument, in writing under my hand and seal, and cause the same to be enrolled in His Majesty's High Court of Chancery within six calendar months next, and immediately after the date of the said letters patent, then the same letters patent, and all liberties and advantages whatsoever thereby granted, should utterly cease, determine, and become void. Now know ye, that in compliance with the said proviso, or condition, I, the said Sir Thomas Cochrane, commonly called Lord Cochrane, do hereby declare, that my said invention, and the nature thereof, consists of, or comprehends, divers improvements for increasing the intensity of light in various particulars, and the adaptation of general principles by means not hitherto practised or understood. The mode of accomplishing the objects to which my said invention will extend, and of best effectuating the said improvements, will be rendered most apparent, and more clearly understood, by contrasting the principles and comparing the construction of the present street lamps with the lamps proposed to be formed and used according to the principles of my said invention, and the adaptation of such improvements as aforesaid, and by explaining their respective defects and advantages (that is to say)—

Of the Construction of the present Street Lamp.

There is a blown glass case to prevent the flame from being agitated or extinguished, which is cylindrical for about two-thirds of its length, and globular at the bottom. These globes, or cases, vary in size according to fancy, or to suit the situation in which they are placed, as in streets, on roads, and on bridges, &c.; in diameter they usually are from nine to fourteen inches and upwards; they are from nine to about fourteen inches in depth. The top cover of such globe, or lamp, is formed of tin, in shape like a cone, having a rim at its base which boots, or fits, on a deep-edged tin suspending ring. This cone rises from three and a-half to four inches above the level of the rim, on the apex of which there is an aperture of about three inches diameter, whereon is fixed a pipe about four inches long, terminated by a small indented cover having apertures beneath, and sometimes there are holes also in the sides of this pipe, or in the upper part of the cone. The oil-holders and their burners are of various shapes; some are circular, and about three inches in diameter, having two round burners; others are oval, being about four inches long by two and a-half broad, and having a long projecting snout; these are uniformly suspended by crooked wires, which hook on a transverse wire in the upper part of the glass globe or case. During the long nights in winter the oil-holders, which are open at top, and about seven-eighths of an inch deep, are supplied with oil to the depth of about half an inch.

Of the Defects of the present Street Lamps.

There is no proper entrance for atmospheric air, or any aperture exclusively for the exit of the consumed air. The efforts of the heated and

of flame between two currents of air was not new, it was the principle of Argand's lamp; but if Argand's lamp

consumed air to escape upwards, and of the cooler atmospheric air to descend into the globe being opposite, the progress of both is impeded, and the pure air mixing with the consumed air becomes immediately contaminated, whereby a great proportion of the oil is thrown off in the state of smoke, tinging the flame of a dusky brown, which smoke, if combined with more oxygen, would afford light instead of lamp-black. The inside of the top cover being often painted of a dark colour, and invariably coloured with sooty matter, absorbs as many rays of light nearly as now fall beneficially on the ground. The top cover, whether in rain, hail, sleet, or snow, is removed three times every day, and these mixing with the fuliginous matter render the glass very unfit for the transmission of light. The oil-holder being unsteady, shallow, and open, the lamp is frequently broken by its motion; common oil freezes in it during the winter, and during the process of trimming the oil is often spilt on the ground and within the lamp. If the wick is cut long the air is very rapidly consumed, and the globe is filled with smoke, but the light is thereby little increased; and it is obvious that that light becomes more and more languid as the oil recedes from the flame, until its rays cease even to mark the shadow of the oil-holder; and the lamplighter's torch being always thrust into the lamp, by its smoke, and the oil which it spills in an inverted position, adds to the obscurity of the globe. These imperfections I remedy in the following manner, *videlicet*:—By giving a proper admission to atmospheric air, and an uninterrupted exit to consumed air; by rendering it unimportant how much the air in the interior of a lamp is contaminated or otherwise, by preserving it in a state of purity; by converting smoke into light and preventing in a great degree the absorption of its rays by the top cover, and the entrance of rain, sleet, or snow, into the globe; by using an oil-holder and burner so constructed as to retain oil without spilling it, to melt it if coagulated, and to continue it always at an equal distance from the flame. The shape of the oil-holder is such as not materially to intercept the rays of light, and it is so affixed as not to occasion the destruction of the globe by swinging about. And, lastly, the wick is, or may be, lighted without entering a torch into the globe or lamp.

General Description of my improved Street Lamps, Top Covers, Oil-holders, &c.

The glass globe of any diameter may without injury to combustion be from one-half to two-thirds less deep than those now in use, or they may be even more shallow. The non-absorbing cover, according to the purposes for which the light is required, may be either concave, convex, semicircular, or of any other fit shape; it is bright in the inside, not painted nor suffered to be obscured by fuliginous or any other matter that will absorb the rays of light. According to my most approved method there is only a small part of the top cover removed in trimming the lamp and lighting it. The aperture for this purpose may be either in the centre of the top cover, or otherwise, and the effect may be produced in various ways; for instance, the exit pipe may fix, or boot, on the aperture to which the oil-holder is brought up for the supply of oil, and to be trimmed and lighted. The most fit oil-holder is a fountain-lamp,

was put into a case without a regular supply of atmospheric air, it would not answer; the air being burnt and

which, besides the properties enumerated, moving in the segment of a circle from its usual position to the aperture, retains its burner uniformly under the aperture of the eduction pipe, to which it may be with advantage placed much nearer than in the present street lamps; its situation, however, must always be determined by the distance to which it is proposed to distribute the unabsorbed rays returned from the cover. The best exit pipe is longer than that adapted to the street lamps now in use, and it is such as to occasion the rapid entrance of atmospheric air (through another aperture) by means of the ascent of rarified air. Pure air is proposed by me to be admitted into lamps, &c., in various ways; by an aperture, or apertures, in the sides, top, or at the bottom, but to give the greatest intensity to flame, to convert all the oil dissipated into radiated light, and prevent the formation of fuliginous matter, a current of atmospheric air uncontaminated by the air already consumed by the burner in the interior of the lamp, globe, or other case, capable of transmitting light, is under and according to my said invention and improvements, conducted, or drawn, by means of a column of rarified air, and wholly or partially directed through, near to, or upon, the flame. The plan described I reckon to be the best for street lamps, but I claim the invention, or beneficial use and application, under and by virtue of my said patent, of the various modes herein specified, or explained, by the references to the drawings or figures hereunto annexed, of applying the general principles: of drawing or conducting a supply of atmospheric air through, near to, or directing it upon flame contained in lamps, transparent globes, or cases, without its being previously contaminated by the consumed air of the burner. Also, my plan for preventing the entrance of air, except through such aperture, or apertures, as are, or shall be, left open for the purposes already explained, and any method, or methods, of raising an oil-holder, or burner, up to, or through an aperture in the top cover for the purpose of being trimmed, lighted, or taken out, without taking off the whole top cover, or up to, or through, an aperture, or apertures, in a reflector, or between reflectors, performing the offices of my non-absorbing cover, or up to, or through a non-reflecting surface protecting the globe, or case, from exposure to the weather, while an exterior top cover is opened or removed, and for enabling the flame to be kindled in my shallow transparent cases. Further, I reserve to myself the usual method of taking off the whole top cover, whether constructed on my non-absorbing principle, or otherwise, if connected with my pipes, conductors, or apertures for introducing atmospheric air, and directing it as before stated, or with my rarified column, or exit pipe, for carrying off the consumed air, and thereby preserving the air in the globe, or other transparent case, in a fit state for the maintenance of combustion. Also, I claim the use of my invention for increasing the intensity of light as applicable to light-houses, ship's-poop, convoy-signal, and other lamps, lanterns, globes, or cases, capable of transmitting light, and for lighting churches, chapels, theatres, or other places, as well as the application of the shadows of my intense light to nocturnal communication, and for exhibiting stationary or moving scenery in theatres and other places. The lamps, lanterns, globes, or cases, above alluded to,

burnt again would become exhausted, and incapable of any longer feeding the flame. There must be a succes-

may be so constructed as to purify and ventilate the theatres or places wherein they may be used by making my eduction pipes in the form of hollow rods, or tubes, for the exit of the rarified and consumed air, which rods, or tubes, may also afford the means of suspending the said lamps, lanterns, globes, or cases, or otherwise, and they may be made of various ornamental or other forms or shapes, and of this application I also claim the invention or beneficial use under my said patent. The annexed figures, or drawings, and the references thereto, will further explain the principles and constructions on which my proposed increase of light is founded, and the applicability of such principles in all cases where light is requisite. They also exhibit my plan for erecting public and other lamp irons, with a view to the trimming and lighting lamps without the use of ladders, and of the which I claim the invention and beneficial use and application under my said patent.

Description of the Figures or Drawings referred to in the foregoing Specification.

Fig. 1 represents a common street lamp, as now used, delineated on a reduced scale. *d, e, f*, is a glass globe. *d, a, f*, the top cover. *a, b*, the pipe at which the consumed air endeavours to escape, and the atmospheric air to enter at the holes *g, h, i, k, l, m*, &c. *c*, shows the distance at which the oil-holder is usually placed from the aperture for carrying off the rarified and consumed air, &c. Fig. 2, is the lamp used (by the contractors or persons who light under Government) in the royal parks, and in the passages to the House of Commons and Treasury. *a, b, a, b*, are holes somewhat better situated than those in the common lamp (fig. 1) for the entrance of atmospheric air. Fig. 3, exhibits the general principle on which my proposed greatest increase of the intensity of light is founded. Let any form *d e, e f, g h, h i*, represent a circle on lines of exclusion, and *d, i, f, g*, apertures anywhere situated for the entrance and exit of air according to the atmospheric pressure respectively on these apertures. Through, or upon, the aperture *d, i*, let a tube, *b, a*, be inserted or placed; light a flame at *c*, then the atmospheric pressure being diminished on the orifice, *d, i*, by means of the rarified column, *a, b*, the external air enters between *f, g*, and flows past *c*, in a state of purity, containing, as far as regards the burner in the interior, its full proportion of oxygen for the support and increase of combustion. Fig. 4, shows an application of this principle:—Let *d, k, h*, represent a glass globe, or case, capable of transmitting the rays of light and of excluding the entrance of air. *d, h*, a top cover. *e, f, g, h*, apertures for the exit and admission of air as before explained. Fig. 5. Upon the top cover let a supplementary plate, *l, m*, be placed moveable on the axis *m*, on which erect the tube *b, a*, and suspend an oil-holder *n*, on the axis *m*, which may be common to both. Let *o, p*, be an opening, or tube, for the entrance of pure air, and *m, o*, a wire attached to the plate *l, m*, or otherwise. Fig. 6. Lift the plate, *l, m*, by the tube, *a, b*, until the wire, *m, o*, having touched the oil-holder, *n*, at *o*, brings it to the position, *o, p, c*. Then pour in the oil at *q*, affix the wick at *c*, apply a light, and return it to the position, *n*, fig. 5. It is obvious that the column, *b, a*, by its propensity to ascend, will cause the more weighty atmospheric air to

sion of pure air to feed the flame, which should not mix with the contaminated air; this was accomplished by

flow in through the opening on the tube, *o, p*, and to pass by or envelop the frame, *c*, holding its full proportion of oxygen, as shown on the general principle, fig. 3. Fig. 7, represents a horizontal section of a flat top cover, with apertures, *a, b*; and *o, p, r, s*, exhibits a strong wire which, in the application now describing, is used as a hinge to the supplementary cover and oil-holder, by passing through the fixed hollow tubes, *m, m*. Fig. 8, shows the supplementary cover or plate, *l, m*; figs. 5 and 6, with its hinges, *t, t*, and also the situation of the axis of the oil-holder at *u*, all of which are, or may be transfixed by the wire represented by *r, s*. Fig. 9, renders the manner of covering the aperture, *o, p*, apparent, by means of *v, x*, a plate moveable at *v*, on the supplementary plate, *l, m*. Fig. 10, shows a method of fitting the common street lamps with my eduction pipe, *b, a*, and aperture, *o, p*, by which last aperture the atmospheric air must enter and flow past *c*, in order to supply the place of the ascending column, *b, a*, its admission being precluded otherwise; *c, p*, is a common oil-holder, fitted with a tube, *o, p*, the mouth of which fits on the smaller pipe, *r*, or the common oil holder, without any alteration, may be suspended in the usual way under my eduction pipe, *a, b*, which pipe, by taking off the consumed air, will on the reverse principle of that already shown, effect the important purpose of preserving the air with its full proportion of oxygen in the interior of the lamp. Fig. 11, shows how a plate or a reflector, *r, m*, may be applied under the present top cover to preserve the transparency of the glass in bad weather, when the exterior covering is removed, or for the purpose also of returning the rays of light contained within the angle, *d, c, r*, which now are absorbed and lost. In this case the rarified column, *b, a*, contained between the double cover, will perform the same office without any exit tube, *a, b*, and the oil-holder, may be brought up by means of the wire, *y, z*, which, being moveable at *z*, when laid back in the horizontal line, *y, m*, will retain the oil-holder in the position of *o, p, c*, shown in fig. 6, or the whole top cover, *d, a, r*, and reflector, *x, m*, with or without the exit pipe, *a, b*, may be removed together, leaving the oil-holder affixed at *r*, either with or without a tube conductor, *o, p, c*, as the air within the lamp will be preserved pure by the contiguity of the flame to the eduction pipe or aperture exclusively, for the exit of consumed air as before explained. Fig. 12, exhibits one of the lamps used in staircases and within doors, and is similar to that affixed in Pall-mall (at the Lecturing room or office of the Gas Company), with this difference, that the opening, *o, p*, instead of admitting the external air generally into the globe or case, there to be diluted or contaminated by the air already consumed by the flame, it is led or conducted, and flows through the opening, *o, p*, past *c, c*, with its full proportion of oxygen. The diminished weight of the air in the interior being sufficient to produce this effect. The burners and oil-holder, *o, p, c*, may be entered into the lamp at the lower extremity, as in the case of the navy signal lamp (fig. 20), or above, as here shown. Fig. 13, represents a common square lamp, the consumed air which revolves in the interior being alternately heated by the burners and cooled by the exterior air in contact with the case, *d, z, r, o*. Fig. 14, is an Argand's lamp similarly circumstanced.

Lord Cochrane's invention, by taking care that the foul air should not return to burn over and over again, by

The consumed air emitted from the transparent tube, *a*, *A*, passing and repassing, and diluting and contaminating the air in the lamp, and all that gains admittance. Fig. 15, exhibits the double, and a side view of the quadruple burners of the opera and playhouses suffocated in exhausted air. Fig. 16, represents what is called a Liverpool lamp, depriving the air in the case, *D*, *E*, *F*, *G*, of its oxygen. *o*, *p*, *o*, *p*, are apertures in the oil-holder and under the glass tube, which supply the frame with contaminated air from the interior of the case. Fig. 17, shows my simple remedy for this defect. Insert the bottom of Argand's burner through an aperture, or into a tube, *o*, *p*, or into a double bottom, having an aperture or apertures to the exterior. The air will flow through and pass the flame, *c*, undiminished in its power, whatever quantity of air may be consumed, and whatever length of time the flame may burn. Fig. 18, is the new principle carried to its full extent, as shown in the general figure and in the former applications. *c* is the same burner as in fig. 17, deprived of its transparent tube, *a*, *A*, which hitherto has been deemed indispensable, and various improvements under that impression have been made on its shape. Fig. 19, represents what is called the Liverpool lamp, circumstanced as last shown. *d*, *h*, may be a reflector, which may be caused to mount up the pipe, *a*, *A*, by the movement of the door in opening the lamp in order to prevent its being soiled by the act of lighting or replacing the lighted burner; ships' poop lanthorns are proposed to be fitted with burners, as in this and the preceding figure. Fig. 20 is a convoy or signal lamp, with a rarified tube and aperture for the entrance of pure air. This lamp affords a light of the most intense kind without a glass chimney, which, under circumstances at sea, never hitherto could be used, hence the loss of convoys and the imperfect state of nocturnal communication. The tube, *A*, *a*, by being lengthened, may be caused to slip down and conceal the flame until the signal is to be shown. Fig. 21 exhibits an ornamental application in form of a transparent cylinder or pillar, which may be placed on a shaft, *s*, *H*, or otherwise; *a*, may be the oil-holder, and *o*, *p*, openings for the admission of air within the transparent case, *d*, *e*, *f*, *g*. The additional figures show the separate parts, and if the case, *d*, *e*, *f*, *g*, which excludes the entrance of external air (except through *c*, to the tube, *a*, *A*,) is of ground glass. Then the whole will appear as in the complete figure. The application of the principles now so fully explained to other ornamental and useful forms, does not require further detail. The globe *d*, *h*, *e*, *f*, *h*, *g*, fig. 22, may either be whole, as represented, or halved horizontally, at *h*, *H*, or otherwise, and the air consumed may be carried out of the theatre, &c., through the tube, *a*, *A*, in the suspending ornament; and the oil-holder in fig. 23, and exit tube may either be lowered down into the vase, *d*, *e*, *f*, *g*, at an aperture above, or they may be affixed to the cover, or the vase may be placed over these standing upon the pedestal. The drawing relative to the lamp irons explains itself. *A* is a lamp. *B*, *D*, a rod moveable on the axis, *C*. *c*, *e*, is an upright bar, upon the side of which may be placed a catch to lock or steady the lamp, and prevent its being disturbed.—
In witness whereof, &c. "COCHRANE."

means of an air tube through the external part of the lamp, which conducts the air to the flame. Argand's chimney must be brought down close to the flame and surround it; in this invention it was different, the heated air ascends out of the glass vase, with no possibility of returning to it; it goes out like smoke from a chimney. To support a patent in a Court of law, it is necessary, first, that the invention should be new; secondly, the plaintiff must be the inventor; and thirdly, the invention must be so specified that the public may have the use of it after the privilege of the patent has expired: in all which points, it will be proved, that this patent can be supported. The most important part of this invention is the non-absorbing cover. The parties have been in Chancery, and therefore we cannot fail to know something of the defence, but it would be inconvenient to anticipate it. It only remains that something should be said upon the subject of reflectors. We do not claim any merit in the return of light, but in the exclusion of the foul air from returning by the non-absorbing cover, which forms what is called in the specification the line of exclusion.

On behalf of the defendant, the following objections were made to the patent and specification:—

1. That the patent was too large and indefinite in its terms, being for an improved mode of lighting without taking any notice of the invention being only an improvement of a lamp.

2. That the specification was larger in its terms than the patent, the latter being for an improved mode of lighting cities, towns, and villages, and the specification claiming the benefit of its application to lighting churches, theatres, and other places.

3. That the patentee had not sufficiently defined what he meant by the line of exclusion.

4. That it had not been specified that the outward air should be excluded from the case, except as to the portion which was conveyed through the admission pipe, in order to feed the lamp.

5. That upon the evidence it appeared that the improvement rested entirely upon the combination of parts known before; but in the specification the plaintiff claimed the benefit of each part separately, viz., the admission pipe, the eduction pipe, the line of exclusion,

and the mode of raising the burner, without stating a claim for the whole together as a new combination.

*Patent void if the
decide only an
invention to name
of the title
then must be no
consistency of terms
between the title &
specification*

Justice Le Blanc.—I am of opinion, that the patent cannot be sustained. The plaintiff has obtained his patent not for an improved street lamp, but for an improved method of lighting cities, towns, and villages; but from the specification it appears that the invention consists in the improvement of an old street lamp, by a new combination of parts known before. The patent, therefore, is too general in its terms; it should have been obtained for an old street lamp, and not for an improved mode of lighting cities, towns, and villages.

Plaintiff nonsuited.

BOVILL v. MOORE AND OTHERS.

In the Court of Common Pleas.—March 1, 1816.

THIS was an action brought by Mr. Bovill, assignee of a patent taken out by Mr. Brown, dated 24th April, 1811, for "A machine or machines for the manufacture of bobbin lace or twist net, similar to and resembling the Buckinghamshire lace net and French lace net, as made by the hand with bobbins on pillows," against Messrs. Moore, Longmire, and Noble, lace manufacturers at Nottingham, for an infringement of the said patent.

Mr. Solicitor-General (Shepherd), on behalf of the plaintiff, stated the questions to be, first, whether the patent of the plaintiff was a good and valid patent in point of law; and secondly, if it be, whether the defendants have pirated that patent.

With respect to both questions there will be very little doubt, when, through the medium of the witnesses, the machinery comes to be understood. They will take the specification and drawings in their hands: they have seen the machinery, and will point out what are the combinations of this machinery; what are the effects that it produces; how it is a new combination, and how the defendants have imitated it.

In Buckinghamshire the women make this species of lace called bobbin lace, or twisted net, by the hand, upon

pillows; and the object of this machine is to make that through the medium of machinery which by them is made by the hand: the benefit derived from it is expedition; it also makes it much more perfect and better.

The patent being for a machine, it is not necessary that every constituent part of that machine should be new—nay, it may not be necessary that any one of the constituent parts of the machine taken singly and separately by itself should be new, but it is sufficient if the combination of the different parts and things that are used be new.

There have certainly been machines used in lace-making. There is a certain sort of machine used for point net-lace:—there is another sort of machine used for what they call warp net-lace, but those machines are by no means similar, but on the contrary totally dissimilar to the present; nor are they capable of making the species of lace which is the object of this, which is called the bobbin lace or the French net lace.

There has been before this a machine invented by another person with the object of making even this sort of lace, but it will be proved to you by the witnesses, that the machine of Mr. Brown is not similar to that machine in the combination of its parts.

In that machine the bobbin-threads twisted round the straight, or beam, or warp-threads, the bobbin-threads moving as they twisted with the successive beam, or warp-threads, in a diagonal direction from selvage to selvage of the lace.

In the plaintiff's machine the bobbin-threads were straight down the fabric, and the beam-threads from selvage to selvage.

The object to be produced by the machinery of the plaintiff, is that which has been stated, and it is constructed with that degree of accuracy that the bobbins always keep their places; they all work and operate together backwards and forwards, always keeping their places relatively fixed each to the other.

It has been attempted to be said by certain persons, that this is not accurately described in the specification: but a great number of scientific men, mechanics, and lace-makers also, will tell you, that they, looking at the specification, and knowing, as every man must have a competent degree of knowledge to make a thing of the

same nature, that they, looking at the specification, can with the greatest ease, considering all its combinations and its parts before they begin to do the thing, make such a machine as Mr. Brown's; they have examined the machine itself; they have examined also the specification, and they will all tell you, that any man of common and ordinary skill in machine-making, looking at that specification, and deriving no information from any other thing but that specification, except the knowledge which an ordinary machine-maker must bring to the business, could construct that machine.

With respect to any other objection to be set up as to this machine not being original in the combination of its parts, that will be left to be stated on the other side, for this reason, that I have not been able to see that other machine which this is supposed to be like; my witnesses have, and as far as I can understand, they are essentially different in the combination of their parts; I am informed that that other machine, which is, I think, Mr. Heathcoat's machine, and for which he obtained a patent before the plaintiff, is not capable of performing the same thing, and certainly not in the same way: you will please to observe this; I do not put my case as if this were a mere improvement of Mr. Heathcoat's patented machine; for if a man takes out a patent and I using that machine, as the substratum of my machine, only invent a part, I should take out my patent only for the improvement I make upon the other.

I say this is a new machine: it is a new combination of parts producing a machine essentially different from any that was ever produced before, though the effect of the former, and the object of the present, are the same, that is, to produce lace. The women who work by hand produce lace; the machine they use, in fact, consists of the fingers, the pins, and the pillow. Mine is machinery to produce all that. If they can prove that this is an imitation of theirs, that will avail them; but, I say it is a new combination of parts, effectually constituting a new machine.

It is said that the drawings might have been better executed, but the description comes in aid.

Lord Chief Justice Gibbs.—Certainly, you need not trouble yourself upon that, there is no doubt of it; a rough plan drawn by a person who understands the sub-

ject with pen and ink, is better than the most beautiful drawing of a man who does not understand it.

Mr. Solicitor-General.—I am obliged to his Lordship for his interference. I made the observation, because I know a great deal has passed in another place upon the subject of these drawings; as far as relates to the explanation of the mode in which this machine operates, I know I have left the statement extremely short; I am afraid to trust myself in the statement, lest I should blunder; but I will call those who can describe it best, namely, men of skill and knowledge in this sort of subject. I shall call to you some of the first engineers, and one or two practical men, who have made some of the most extraordinary machinery in this country, and they will tell you that a common and ordinary workman would, from this specification, be able to make the machine, and that the specification is perfectly sufficient for the purpose for which it is designed.

One word about the piracy. This cause has arisen out of a bill in the Court of Chancery: the Lord Chancellor directed an action to be brought to try the question. The machine by which ours is pirated, being in the possession of the defendants, it might be difficult, and must be in many cases, to prove how they have pirated ours. The attention of the plaintiff was first drawn to the imitation, by the production of the manufactured article itself, because those who are judges of this article could tell almost upon a view that this was made by Mr. Brown's machinery, or something like it. We have had great difficulty in getting at Mr. Moore's machinery, but we have witnesses who have had an opportunity of seeing and knowing how the defendants did use their machinery; witnesses have been sent down by order of the Lord Chancellor very recently, and the defendants have been compelled to show their machinery.

(The learned gentleman then called evidence in support of his case, showing that the defendant used similar machinery, and that the specification fully explained this invention.)

Mr. Sergeant Copley, for the defendant.—The object in contest between these parties is of great importance to both of them, and also to the public, because the manufacture carried on by means of these machines, and

machinery of a similar description, has become a very valuable article of commerce in this country.

Ingenious as the plaintiff's machine is, it must not be supposed for a moment, that that machine, taken together, is his sole invention; because every person who is acquainted with the mystery of this manufacture knows that this machine is a machine of gradual improvement—that the minds of many ingenious men who have been concerned in inquiries of this kind, have, for forty or fifty years, been directed to the compilation of instruments of this nature, and though the principal parts of the machine may be referred to individuals, machines for the purpose of producing bobbin net have been in use for many years, and have been in the course of gradual improvement.

There is a frame with a number of threads in the first instance placed perpendicularly and parallel to each other—the lower extremities are fastened to a roller, the upper extremities are wound round small bobbins, called spools, and by that name they will be distinguished from the other bobbins made of brass, and which answer another purpose: there are a number of parallel threads wound round spools at the top, which supply the thread as it is worked off in the manufacture of the lace. The beam is turned round by that which is coiled round it, and the lace is wound up on the roller—that is the position of one set of threads. Now the operation of making the lace is the simplest in the world: all you have to do is, to twist two sets of threads together, and after you have done that, to cross one set; there is another set of perpendicular threads which come up in an oblique direction, they are wound round small bobbins, which bobbins are wheels constructed in so neat a shape and form, that they can pass directly through those upright threads; the moment those threads are passed through the upright threads, they take a small motion to the left; the distance of that motion is precisely the interval between the upright threads, the consequence of which is, that each bobbin when it has passed through those upright threads and made this movement, is in a situation opposed to the interval next to that through which it before passed; it then returns through the threads again, and takes another motion to the right, resuming its former situation; by these four movements, the thread which is wound upon

the brass bobbin, winds once round the upright thread; it has gone through the one side, and comes back to the other, and resumes its former position; but that is not enough, it must wind round it one half time more, for which purpose it again returns and goes to the left.

That makes two sides of half a mesh. The meshes consisting of hexagons: In order to form the upper side, the only thing necessary is to cross the upright threads; the beam threads are crossed by each taking the place of its neighbour, so that there are two sides twisted, and a third which is crossed; but there is one other operation to form half a mesh: these twistings are extended from one end of the threads to the other, and it is necessary they should be racked down and held to the bottom of the machinery, and that is done by a motion that makes half a course, and in order to complete the mesh, the same is performed again, so that the movements are extremely simple, and they are common to all lace machinery of the kind, and those movements are effected in precisely the same way, and by the machinery described in this specification, and which, from the nature of the terms of the patent, the plaintiff has appropriated exclusively to himself.

I am troubling you thus, because I shall satisfy you that this is old, that it is in Mr. Heathcoat's machinery, and has been long in use in the town of Nottingham. There is another thing which is also very material. Immediately above the roller, there is a slit through which the lace passes—and it is necessary that these bobbins in their movements should describe the arc of a circle, because, if they went in a parallel motion, those threads which are oblique, as they approached the middle, would become loose; this is one of the motions which prevails in all instruments of this nature.

Having described what the nature of the machinery is by which this is set in motion, I will now tell you what parts of this are old, and I will direct his Lordship's attention to the terms of this patent and this specification, and I think I shall satisfy his Lordship beyond a doubt, that this patent cannot be sustained. The patent is for an invention of "a machine or machines for the manufacture of bobbin lace or twist net, similar to, and resembling the Buckinghamshire lace net and French lace net, as made by the hand with bobbins on pillows;" that is the

object of the patent. It is a patent for a machine, and I do not dispute for a moment, that a new combination of old machinery may be the subject of a patent, but I will tell you what is necessary in that case—that when the party takes out his patent, he should call it a new description of old machinery, or an improvement of former machinery.

Now, let us look at the language of this specification. He says, "Now know ye, that in compliance with the said proviso, I, the said John Brown, do hereby describe and ascertain the nature of my said invention, and in what manner the same is to be performed and operate by the plans or drawings, and in the following description thereof, (that is to say) my invention consists, as represented by the drawings hereto annexed,"—and then he goes on in his specification to describe all the simple parts of this machine, and all the combinations of this machine, without pointing out what are the parts which act in a new manner; then I say he has appropriated to himself more than he is entitled to, and that, therefore, this patent cannot be sustained.

The crossing of the threads, I shall also prove to be old; the threads enter between the dividers, and then are taken out by forks—they cross in opposite directions—how is that done?—by a very complicated piece of machinery, (which we describe as Dawson's wheels, because Dawson obtained a patent for them,) and which is incorporated into the plaintiff's patent. It consists of an upper wheel, which is driven round in a particular manner, and by a particular contrivance, setting in motion two wheels, which have indentations and projections, which set in motion two bolts which act upon the fork bars, which fork bars project forwards for the purpose of taking the threads out of the dividers, which fork bars cross and throw them back upon the dividers. The whole of this, which would be, and is itself the object of a patent, has existed for ten years at least before this patent, so that I am not saying that there are fundamental primary parts, if I may so call them, that are old, but that there are these complete combinations which are old.

It was but a few days ago an action was tried for pirating the patent for an umbrella.* On advertng to

* *Macfarland v. Price*, p. 309, ante.

the specification, it appeared that the plaintiff had described his invention as consisting of so and so, and so and so. The witness was asked what parts were new, and he described the parts, but because the specification did not distinguish the new from the old, the plaintiff could not have the benefit even of that which was new, and he was nonsuited. Every gentleman, from his own knowledge and his own recollection, would be competent to say what was new and what was old, but I am entitled the moment this patent expires, to go and set up this machine, and I ought to be in a condition by looking at this, to be able at once to make the machinery, and at once to distinguish that which is new from that which is old. Suppose a workman in London were to go to look at this machinery for the purpose of seeing how far he might carry contrivances of his own, without infringing this, I ask how does this give him information? he finds no distinction of the parts—he finds all described as the invention of the plaintiff, for he says, my invention consists in so and so, and the parts are put together so and so; all this is calculated to mislead the public, and to lead them to believe that he has a right much more extensive than he is entitled to, and this I apprehend will be a complete answer to this action. But let us look at the evidence as it at present stands upon this point.

Lord Chief Justice Gibbs.—Try it in this way. Supposing that which you say was old was new, and suppose that the present plaintiff were to bring an action against a person for making a machine up to the extent to which you say it was old, could he recover upon this specification?

Mr. Sergeant Copley.—With that view I will direct your Lordship's attention to the second count of this declaration, to show how they themselves have considered it.

This is the way in which they allege it in one count of their declaration,—“that the defendants did use and put in practice a part of the said invention in such letters patent mentioned, by then and there making and constructing divers, to wit, one hundred other machines for the making and manufacturing of bobbin lace or twist net of the said description and kind in the said letters patent mentioned, the said last-mentioned machines, then and there being of the same nature and kind, in part with

the said machines so found out and invented by the said John Brown," so that we are charged with putting in practice this invention, by making a machine of the same nature and kind in part with that invented and found out by John Brown. He says I have a right to the whole of this machine; I make use of a part of this machine, but I say it is not his part, and he is not entitled to it.

If the principle I am now contending for does not meet with his Lordship's sanction, it is in vain for me to endeavour to press it upon the jury; but I contend, that though a man may take out a patent for a machine consisting of a new combination of old parts, when he comes to specify what the nature of his invention is, he must describe it as a combination of old parts, or discriminate between the new and the old.

Lord Chief Justice Gibbs.—You are upon the question whether he has taken his patent for too much: if this be new, he has taken this to himself, and taken it as that of which he has an exclusive right, consequently, if you can shew he has not the exclusive right to it, then he has no right to it.

Mr. Sergeant Copley.—I am extremely glad, that what I say has the approbation of his Lordship; that is the view we took of the case before we came here, and when you come to advert to the evidence as it has been already given, and to the further evidence offered on the part of the defendant, you will entertain no doubt as to the application of the principle to these facts, for the essence of the invention is the construction or application of the brass bobbins, and that I shall prove is old.

As to the specification, I am not one of those who think slight objections to a specification ought to prevail. If an ordinary workman can make a machine from it, that is what is considered sufficient; but we have many witnesses, men of skill and eminence, who will say that a defect with respect to the making the selvage, is a radical defect, and that, though the remedy is obvious when once it is found out, it is very difficult for a person, reading this specification, to guard against those consequences, which would ruin the lace.

Lord Chief Justice Gibbs.—I am averse to interposing as you go on, but I think it sometimes clears the case. It has struck me, that even if the prosecution of the manufacture be assisted, by bending together two of the

teeth of the dividers, or making one longer than the rest, if that appears to have been a subsequent discovery, it would not break in upon the validity of the patent, it would only show, that the patentee has since found out the means of carrying on his own invention to better effect.

Mr. Sergeant Copley.—Now, as to the infringement. That our machine is similar to the plaintiff's I do not deny, but all the machines are similar to each other. The plaintiff has appropriated to himself several parts which belonged to others;—we may have taken something which exclusively belongs to this party, but I am not sure we have done so; but I think the question will not come to whether we have infringed their machine, but that the material question for your determination will be whether the patent as they have taken it out can be supported; and I think when I offer to you the strong body of evidence I shall, you will be clearly of opinion that it cannot, and that the combination of old parts in this new machine, not being referred to as such, but being appropriated to the plaintiff as his own invention in this specification; that it is a vital defect, and sets aside this patent.

Lord Chief Justice Gibbs.—The first witness says, "I have never seen any machines which contain in whole, or in part, the two peculiar characters I have described, namely, the mode of obtaining the warp threads, and the mode of obtaining the diagonal threads." "The longitudinal threads carried on bobbins, and the beam threads carried diagonally;" that is his statement of the peculiar characters of this machine.

(The learned Sergeant then called evidence to show that not only were the separate parts not new, but combinations of many were in former machines for making lace, and that the fabric produced was the same as before made, and that in substance the machine worked like Heathcoat's.)

Mr. Solicitor-General, in reply.—I think I may say, that one of the questions which has been made in this cause is now pretty well out of the case; that is, whether the machine which has been made by the defendants is an imitation and a piracy; that is totally abstracted from the question whether my client is entitled to this patent or not.

Now, I have another observation to make, which is this: my machine, say they, has no novelty, no merits about it, but all the combinations were invented by others, and other machines had all the merit belonging to mine before it was invented. Then why did not Mr. Moore go on working Mr. Heathcoat's machine, if he chose to pirate his patent, or working with his warp machine, using these which they call Dawson's wheels? If Mr. Moore had chosen to go on working with Mr. Heathcoat's machine, or the warp machine, or any improvement of his own, my client would not have come here to complain. All machines for the manufacture of lace, if they do not trench upon existing patents, are open to all the world; all the world are at liberty to take all those things that are old, and to put them into a machine if they chose, and to combine those old parts with a new principle and a new application; for, let it be recollected, that that which I stand upon in my case, is this, not that the frame is new—not that the eccentric wheel is new—not even that the bobbin is new—but that out of a great many old things put together in a particular manner, my client has combined what I call a new thing, that is, a machine upon a new principle, and producing to a certain degree new effects, though the combination of which that machine is formed is old, or the different things combined, I should rather say, are old.

My learned brother has attacked the patent on one or two grounds which I will state to you, before I come to state how this is a new machine, inasmuch as it is a new combination, on an essential principle in lace-making, which however has been used; yet this principle, supposing it to be new, says he, you have not specified so that your specification will support your patent; for if a man makes a new invention, whether a new invention of old things, with a new combination, or a machine of which every thing is new, he must specify that, so that persons of competent skill may be able at the expiration of fourteen years, to make the thing of which he had the monopoly. Then on what ground does my learned friend attack our patent? Why, he says, you claim your patent for a machine, as if every thing of which it was composed were new. Now, I deny that proposition; I have claimed a patent for a new machine for the purpose of making Buckinghamshire lace, or that resembling it;

my patent and my merit consists in putting these different things together which are old of themselves and standing singly, for the purpose of working in a manner totally different from that which ever was worked before in lace-making.

If my learned brother's doctrine be true with respect to the specification, see what must be the consequence of it; a man never invents a machine of which all the parts are new, and did any man ever see any specification stating this is old, and that is old, and so on? In a specification for the improvement on a machine, I agree it must be so stated, and if my patent be good, which I think I may confidently say you will find it is, if whenever that fourteen years shall expire, any man shall invent not a new machine on a new principle, but a substantial and good improvement upon this machine of mine, that man who may take out such a patent then, must not specify as here, but he must take out his patent for an improvement upon that machine of Mr. Brown's, and put in his specification what are the additions and improvements he makes to that machine. But that is not the case here, for upon the very looking at the statement of the specification as referring to those most intelligent drawings, I say the patent when it is read presents to the mind, and the specification as referring to the drawings presents to the mind, that the principle of the patent is a machine composed, if you please, of old parts, but upon a new principle, to produce a new effect in the mode of working lace.

Now when I have heard it said by persons on the part of the defendant, that looking at that specification, they could not make the machine by it, I do not mean to say those persons tell you what is untrue or palpably false, or anything like it: it is matter of opinion, but then we must take the extent of the capacity of those who tell you that they can do it, and the extent of the capacity of those who tell you they could not; I must look to the resources of Mr. Galloway's great mind, and I say that not only he, but the other gentlemen we have called, are judges of the quantity of skill requisite to make a man a competent and fair workman, just as well as the workmen themselves; and they tell you, that there is no man who brings a fair and competent degree of skill to market, but would from that specification make it. Mr. Keir's evi-

dence was extremely strong upon that subject, for he stated this, that he never saw any drawings in his life that afforded more information, or better means by which to make a machine.

Then let us see whom we have called next, Mr. Maudslay; he is not only a man of science and of skill, but he is a man who has been in the habit of constructing machines.

Lord Chief Justice Gibbs.—I think you have nothing to meet you upon this subject, except the question of the breadths; the other is most satisfactorily proved; with respect to the division of the breadths, that is a point in the case.

Mr. Solicitor-General.—Then upon the subject of the division which has been pointed out, his Lordship made an observation in the course of the cause, which struck me as very strong, as applicable to this case. I will suppose, there being no division shown or mentioned in that specification, that Mr. Brown has, since that specification, devised means by which the thing may be divided: that would not belong to this specification.

Lord Chief Justice Gibbs.—I threw that out principally that you might avail yourself of it; but I think the way of availing yourself of it, was to show that you had, after your patent issued, made any one machine for your own use without bending the wires, or in some other mode producing this; I threw that out to you on purpose.

Mr. Solicitor-General.—What I was about to state is this, we have not shown that we have worked a machine without a specific division.

Lord Chief Justice Gibbs.—The way in which that turns upon you is this, that you knew a better way of doing this than you communicated to the public, and kept back that better way, in order that after you had got your patent, you might still have an advantage in the manufacture, that is the way in which it is put.

Mr. Solicitor-General.—There are many cases in which that might be inferred, and whenever circumstances of suspicion arise, you would infer that it had been kept back; but you cannot suppose this to have been purposely kept back, when you take the evidence of Mr. Galloway and Mr. Keir, who said the division was not necessary to be stated, for that the common and ordinary

skill of the man who was to set the machine in operation, would be sufficient to mark out to him that he must leave a certain space between the two, in order to prevent the entanglement, which, it is supposed, would take place. Now if that be so, the circumstance of that division not being mentioned in the specification, affords no argument at all, and no foundation for the observation, that it was omitted with any intention. At the time Mr. Brown put that specification upon the record, he neither thought it necessary, nor do I know that it is essential, that there should be that stop; the thing is better with it, I agree, but the not having it does not give a vital stab to this patent, or this specification, nor anything like it, and that, I think, is the only part to which this objection is made.

Then comes the question, whether we are entitled to maintain our patent or not; because this is not a new combination, or because we have been pirating the patent of some other person. I know this, that if a person chooses to take out a patent for that which is not new, and for which another has a patent, he cannot support it, whether that person brings an action or not; but it is most extraordinary, considering Mr. Heathcoat's patent to have been taken out in 1808, and Mr. Brown's in 1811, that the first time the question comes to be discussed in a court of justice, should be an action which Mr. Brown has been obliged to bring against some person who has pirated his patent; and that Mr. Heathcoat has never thought fit to bring any action into a court of justice. But there is a most essential and important difference between the two machines, and, as far as relates to the commodities produced, between the two commodities: you have had evidence of that from the commodity itself, to-day we have had samples produced of two breadths, the one from Mr. Brown's machine, and the other from Mr. Heathcoat's, and I take leave to say, that the one has perfect selvages, and the other has imperfect selvages, and nobody could sell that lace, with those selvages, without either the seller or the buyer cutting off those selvages, for, I am sure, no woman would take that to put an edging to a lady's cap without cutting off the selvages.

Now how is the difference produced? It is obvious, upon the very principle of my patent. By all the old

modes of making lace by machines, the warp thread is that which is fixed from the beam; and by my mode of making it, the diagonal thread is that which is fixed from the beam, and the warp thread is that which goes diagonal.

Lord Chief Justice Gibbs.—I do not think you need waste yourself upon this part of the case, because I take it to be a part which has not been at all disputed, that when you get up to the time of crossing the threads, after that yours is an invention.

Mr. Solicitor-General.—Then if that be so, and manifestly and obviously it is so, I consider that is the very thing which establishes my proposition.

They tell you that though there are bobbins in Heathcoat's, and bobbins in ours, the principle of combination is not the same; the roller at the bottom is in every common weaver's engine, and there must be all these things, though, perhaps, not operating in the same way as in this; but the main and substantial thing is this, that the warp thread is the agent, producing the same thing, but with this additional benefit, that it produces lace much more perfect than that made by Mr. Heathcoat's, or any other machine.

I will now leave the case in your hands, subject to the directions you will receive from his Lordship. Upon the whole, I apprehend I am clearly entitled to your verdict for the plaintiff.

Lord Chief Justice Gibbs.—This is an action brought by Mr. Bovill against Mr. Moore and others, for having infringed a privilege granted to Mr. Brown for the sole use of a machine for making lace; and the questions are whether the patent, under which he claims the sole privilege of making this machine, be a legal one, conferring upon him that sole privilege, and whether the defendant has or not pirated it. It is necessary for the plaintiff to show that he is entitled to this sole privilege, and that the defendant has pirated it, and that he, the plaintiff, has conformed to all the conditions upon which this privilege was granted to him, in order to entitle him to recover under this action.

The case is stated differently in the different parts of the record. It is stated that the defendant made a machine like the plaintiff's; it is stated that he sold machines like the plaintiff's; it is stated that he imitated

the machine of the plaintiff; and it is stated that he imitated parts of the machine of the plaintiff.

They have produced the patent granted to the plaintiff for a machine for the manufacture of bobbin lace or twist net, similar to, and resembling the Buckinghamshire lace net, and French lace net as made by the hand with bobbins on pillows. It is for a machine of this description the plaintiff has obtained his patent. The patent which is granted to him contains a condition which if it be not performed, the patent becomes void, namely, that he shall, within a certain period, register a specification of his invention in the Court of Chancery, the object of which is that he, enjoying the privilege of this supposed invention of his for such a number of years as the legislature grants it to him, shall describe the mode of the manufacture, so as to enable any person to make it after his term is expired.

This specification* contains an account of all which is

* In order that this case may be understood by the general reader, and also by the lace-maker, it will be desirable to enter shortly into the history of lace-making by machinery in this country. Before 1808 the only fabrics made by machinery having the character of lace, were those made in the stocking frame, where only one thread was employed in making a fabric, but so looped as to produce open and close work in the form of point net. There were also the fabrics produced in warp frames, where there were as many warp threads as there were needles in the machine, and these warp threads looped into each other, forming open and close work in the character of lace, but not lace of a similar nature to that made by hand on the pillow, which consists in twisting the threads together to form the sides, or what are called the pillars of the meshes, the tops and bottoms of the meshes being formed by the crossing of the diagonal threads which twist with the longitudinal threads. In 1808 Mr. Heathcoat took out a patent for making twist-lace, of a similar character to that made on the pillow, by machinery; and he accomplished this manufacture by having two classes of threads, one called warp, and the other bobbin-threads, there being as many bobbin-threads as warp-threads, and these two classes of threads were arranged as follows: the warp-threads were wound side by side on a roller which was at the lower part of the machine, and these warp-threads were conducted up and made fast to another roller, on which the work or lace was wound up as fast as it was made: the warp-threads not touching each other allowed what were called carriages to pass between them, each of such carriages carried a thin bobbin composed of two circular plates of very thin metal fastened together at the centre, and on these bobbins the threads called bobbin-threads were wound, those threads being also made fast to the upper or work roller to which the warp-threads were fastened. The bobbin-threads each in succession twisted round each of the warp-threads, in such manner that one half of the bobbin-threads was at all times travelling towards the right-hand sel-
vage, and the other half was at all times travelling towards the left-hand

stated to be invented by him, and he is bound to confine himself to that which is his invention; and if, in his

selvage of the fabric of lace which was being made in the machine, the work being constantly wound up as produced; the twisting of the bobbin-threads around the warp-threads producing the pillars or sides of the meshes, and the crossing of the bobbin-threads in opposite directions producing the tops and bottoms of the meshes. The machinery thus invented had received various improvements from Mr. Heathcoat and others working under this patent, and it was in this state that Mr. Brown found the manufacture of twist-lace by machinery when he took out his patent in 1811; and the nature of his invention may be rendered more clear to persons unacquainted with lace, as well as to the lace-manufacturer, by a short statement of the specification as enrolled, than by giving the specification at length, it being a very extensive document, and confined strictly to an explanation of the mechanical parts, without pointing out in any way the peculiarity of the machinery when made according to the invention. The title of the patent was, "A machine, or machines, for the manufacture of bobbin-lace or twist net, similar to, and resembling the Buckinghamshire lace-net and French lace-net, as made by the hand with bobbins on pillows;" and the specification has several drawings, very well executed, of all the separate parts of the machinery, and they also show the various mechanical parts in different states of combination, and combined into a complete machine. The description commences with describing each of the parts as shown in the drawing; then the combination; and, lastly, the combined working of the machine. There is only one slight defect in the specification, and that was taken advantage of by the defendant at the trial, and the only question was, whether the plaintiff had omitted it intentionally, or whether he invented it afterwards; but in other respects the specification is wholly unobjectionable so far as enabling a workman to make the invention from the specification, and a workman accustomed to lace machinery as used before the patent of 1811, would instantly know the peculiar and novel character possessed by the machinery described; he would at once perceive that the warp, or beam-threads, were to be so worked as to proceed or traverse diagonally from selvage to selvage in place of the bobbin-threads, and that the bobbin-threads were to retain their office of twisting successively around all the warp threads, but in doing so they were to proceed longitudinally in the fabric, thus reversing the operations of the working of the warp and bobbin-threads, so far as the traversing from selvage to selvage. This improvement in the machinery for making twist-lace was highly valuable, as lace in narrow and wide breadths could be made side by side in the machine, with good selvages to each breadth of lace, which could not, at that time, be done by the old machinery. The objection to this patent as in *Macfarland v. Price*,* was, that the whole of what was described in the specification was in law claimed as the invention, and that there was no statement of what was new and what was old. There is no doubt that it is a hardship on a patentee that he should be bound to say, in his specification, to a workman, "you very well know that such and such things described in my specification are not new, and therefore they are not claimed." This is often the remark of a patentee when he comes to

* P. 309, ante.

specification, he has exceeded the limits of what he has invented, and of which he is entitled to the sole privilege,

specify his invention, the simple answer is, "though the workman accustomed to such machinery will see at once the novelty, the Court will not, unless it be made clear on the face of the specification." In this case such a disclaimer would have gone to every part of the machine, for every part had been used before in twist-lace machines; and in order to have made the novelty claimed under the patent clear to a Court of law, the patentee must have gone further, and have said, in some such words as the following,—“The peculiar character of the invention is, that *I have so arranged these old parts that the warp or beam-threads traverse from selvage to selvage in place of the bobbin-threads, and the bobbin-threads twist with the warp-threads as heretofore, but they do not traverse from selvage to selvage; and that is the novelty of my invention.*” Had he so described the invention, and disclaimed the separate parts, he would not have taught a mechanic previously acquainted with twist-lace machinery, who was to work after the specification, any more than the specification at once taught him; but the patentee would have defined his invention, and the Court, with whom the construction of the specification is, would have been enabled to say what the invention claimed under the patent was. All the witnesses at the trial, both for the plaintiff and for the defendant, clearly pointed out this novelty in the construction and combination of the various parts;—they could not, in truth, have done otherwise. In fact, such is the clear distinction in the modes of working, between the old and the new, that these machines have ever since been known as “*traverse warp machines*,” in contradistinction to Heathcoat’s machines, which have ever since been called “*traverse bobbin machines*.” If the question had been raised whether the use of Brown’s machine was not an infringement of Heathcoat’s patent, there can be no doubt that a jury would have found that it was an infringement of that patent; but this would not have injured the validity of Brown’s patent, if the specification had defined as well as described the invention.* The decision come to in this case, as in *Macfarland v. Price*, was a great hardship on the patentee,—the patentees in both cases having described their inventions in such manner that a workman could not fail to produce a new and valuable invention, the general feeling would be that they ought to have been protected; but would it not be a still greater hardship on the public if the patentee did not in some manner define within what limits he claims the matters described in the specification, where old as well as new parts are described. It has at all times appeared to me that the patentee ought to define the invention, and, on the other hand, that a Court of law ought not to be stringent on the patentee as to the manner of describing and defining his rights, because a specification must necessarily be more or less the production of the workshop. The workman does not understand legal language, any more than a Court of law can understand the technical mechanical language of the workshop. A specification must therefore, in the first place, describe in mechanical language the mode of performing the invention; and it is at all times

* *Ex parte Fox*, ante, p. 274. *Lewis v. Davis*, and *Crane v. Price*, (post.)

Shewn too large if it take in more than the invention though in other respects there may be no objection to his patent; that will overturn it, for he will not then have registered a specification of his invention,—it will be irregular in having exceeded the limits of that invention.

Having made these general observations, I will state to you in what manner he has introduced this in his specification. "Now know ye, that in compliance with the said proviso, I, the said John Brown, do hereby describe and ascertain the nature of my said invention," which he has recited to be that which I have stated from the patent, "and in what manner the same is to be performed and operate by the plans or drawings hereto annexed, and in the following description thereof; (that is to say) my invention consists as represented by the drawings hereto annexed, and as hereinafter described." Whatever, therefore, is contained in the drawings annexed, is claimed by him as his invention, and, if it be his invention, he is entitled to maintain an action against any one who shall either practise the whole of this invention, or shall practise any part of that which he states in his specification to be his invention.

In point of law it is necessary that the plaintiff should prove that this is a new and useful invention, in order to entitle himself to the present action,—that I think he has satisfactorily done, and no resistance is made to his claim

better to avoid the use of legal language, as inventions may be better defined, as well as described, by language suitable to the workshop, than by any other style of language. Such has, for the most part, been the practice, in drawing specifications of patents, for many years, with success. In modern times, it has become a practice to define the invention by claims, or by disclaimer, or by both, or by a statement of the peculiar character of the invention, contradistinguishable from what had been done before. It may not be out of place here to remark, that although Courts of law now view patents more favourably than formerly, much of that favourable feeling has been brought about by the manner in which specifications have been drawn of late years; and patentees, when drawing their specifications, should not be satisfied by simply giving a description of the manner of performing their invention, as in the above case, but they ought also to define the novelty constituting the patent right.

If this patent, and also the patent of Cochrane, page 311, and the patent of Macfarland, *ante*, page 309, had been subject to the present law, (5 & 6 Will. IV., c. 83,) they might have been so amended by disclaimer and alteration, as to retain to the patentees so much of the respective inventions described as was in each case shown to be new and useful, and the patents rendered valid. See *Morgan v. Seaward*, *Losh v. Hague*, *Rubery v. Barrs*, (*post*.)—these were amended after verdicts against the patents.

W. C.

upon that ground. It is not pretended that the invention, as far as respects a certain part of the manufacture, is not new, nor is it pretended that it is not useful. I need not, therefore, leave it to you as if there was any question on this part of the case.

Then the next question is, whether the specification would enable a workman of common skill to make the machine. Upon the evidence adduced to you, I think there is no doubt it would, for, with the exception of some slight difficulties thrown in the way, I think the evidence is uniform, that a workman of common skill applying a great deal of attention to it (which so complicated a machine, however described, must require), and bringing a competent degree of skill, would be able to make the machine; therefore I think you may discharge your minds from that consideration.

There is another consideration respecting the specification which is also a material one, and that is, whether the patentee has given a full specification of his invention, not only one that will enable a workman to construct a machine answering to the patent, but one that will enable a workman to construct a machine answerable to the patent to the extent most beneficial within the knowledge of the patentee at the time: for a patentee, who has invented a machine useful to the public, and can construct it in one way more extensive in its benefit than in another, and states in his specification only that mode which would be least beneficial, reserving to himself the more beneficial mode of practising it, although he will have so far answered the patent, as to describe in his specification a machine to which the patent extends; yet he will not have satisfied the law by communicating to the public the most beneficial mode he was then possessed of for exercising the privilege granted to him.

patentee is bound to state in his Specn the best mode with which he is acquainted for carrying his invention into effect otherwise he will only nominally & not really comply with the proviso

In the present case, this, I think, appears clearly proved, that lace may be made in breadths without resorting to the means that certainly have been used, either of bending the teeth of the dividers or making the external tooth longer; and it is certainly clear that this specification does not point out to the artist, that he is either to bend those teeth or to make one longer than the rest; the effect of not doing that will only be, that there will be danger of the threads entangling, but still with a competent degree of attention in the workman, although

with some delay of the work, that entanglement may be avoided: or if not avoided, may at least be corrected as it occurs, so that the work may be performed, though in a less perfect degree, without this bending together of the teeth, or without the inserting teeth longer than the others. If Mr. Brown, since he obtained his patent, has discovered an improvement effected by bending the teeth or adding a longer tooth, he may apply that improvement, and his patent will not be affected by his using his own machine in that improved state; but if at the time when he obtained his patent he was apprized of this more beneficial mode of working, and did not by his specification communicate this more beneficial mode of working to the public, that will have been a fraudulent concealment from the public, and will render his patent void. Now the evidence in the case stands thus, that there is no machine of Mr. Brown's proved ever to have existed without this improvement, which is certainly a considerable improvement in it. I threw out this view of the case that it might be shewn, if it could, that Mr. Brown had used any of his machines without that improvement: no such evidence has been produced, and, therefore, I must take it that no machines have been used by Mr. Brown without that improvement. Now if, upon the whole of the evidence, you think this was industriously and studiously kept back from the public, that Mr. Brown might have an advantage over and above others that worked these machines, that will be a suppression that will avoid his patent; but if you think this was a matter which had not occurred to Mr. Brown at the time he invented this machine, and that it was an improvement afterwards, the validity of the patent will not be affected by it, though he will have added to his original merit of invention the further merit of being able to use his own invention more beneficially than the patent points out.

*Imperfection of description
if studied fatal to the
specimen: but not so
of patent, only perfect
his invention after
specifying*

Having disposed of that part of the case, and having stated to you, as I believe I have, that it is admitted on all hands that the patent, if a valid one, has been infringed; having freed the case of those questions which arise in it, I come to that which is the most material, namely, whether the specification in this case be or be not a good one in respect to the extent of it.

I understand the case better now than I did in the

outset, though I cannot say that I understand it in a way so satisfactory to myself as I could wish. I collect, however, from the testimony of the plaintiff's witnesses, what they contend their invention to be, in what its novelty consists, and what are its merits; and, in order to state these, I would refer to the evidence of the first, and who is certainly not the least, perhaps I may say he is the most intelligent of their witnesses. He clears the case of all the preceding difficulties of it on all those points upon which I have already troubled you, and upon this question being asked, what the particular merits of this invention were, he says, "The advantage of this machine is, that the twist can be performed by the agency of the bobbins, which, if they came from the common beam, could not be performed; the diagonal threads come off a roller or beam which revolves round its axis, to which the diagonal threads are fixed, and the roller, so clothed with threads, has a species of planetary motion, by which the threads traverse right and left, the effect of which is to dispose of the diagonal threads over the whole breadth of the particular piece of lace." Now there he commences his description of the advantage, and he shows a piece containing two of the diagonal threads in black thread. In order to explain the manner in which they pass across, he says, "I never saw any machine that acted in this way before; I have never perceived any which contained, in whole or in part, the two characters which I have described, namely, the mode of obtaining the longitudinal threads, and the mode of obtaining the diagonal threads. These effects are produced by a perfectly new mechanical operation." In these particulars, Mr. Galloway states in what the novelty and the merit of the invention consist; and there is no doubt, as I stated to you before, that this is a beneficial invention for the public, and that in this respect it is new. But, although it is beneficial for the public, and may, in this respect, be new; yet, if the plaintiff has in this specification asserted to himself a larger extent of invention than belongs to him,—if he states himself to have invented that which was well known before,—then the specification will be bad, because that will affect to give him, through the means of this patent, a larger privilege than could legally be granted to him.

I have stated in what terms the specification runs.

The defendant says, I do not dispute your specification, after the operation is brought to the point of crossing the threads, except, in this respect, I say your cross bar and your fork are not new, and that, therefore, in claiming them you have claimed too much. With respect to the contrivance of applying the beam threads to the diagonal, that I admit to be new. I admit that may be an excellency, and I admit that your specification for that part of your machine is a perfect one; and if you had expressed yourself in this way,—if you had stated that you had invented an improvement of the existing machine, and that it followed that period of the process I have been describing,—I would not have quarrelled with it; but I insist that all that precedes that part of the operation was old, and had been practised before: and the defendant calls several witnesses to show, that under the warp machine, and under Heathcoat's machine, all that precedes in this operation had been previously practised by the same means; that is to say, in substance, by the same means as it is described in the specification of Mr. Brown, and actually practised by Mr. Brown. I say by the same means in substance (it will be the same in substance if the principle be the same in effect), though the form of the machine be different.*

Identity of principle constitutes identity of invention irrespective of particular forms of process.

I remember that that was the expedient used by a man in Cornwall, who endeavoured to pirate the steam-engine. He produced an engine, which, on the first view of it, had not the least resemblance to Boulton and Watt's:—where you looked for the head, you found the feet, and where you looked for the feet, you found the head; but it turned out that he had taken the principle of Boulton and Watt's,—it acted as well one way as the other; but if you set it upright, it was exactly Boulton and Watt's engine. So here, I make the observation, because I observe it is stated that one acts upwards, and the other downwards; one commences from the bottom and produces the lace by an upward operation, the other acts from above and produces it by an operation downwards; but that, if the

* There can be no doubt that the use of Brown's machine, without licence, would have been held to be an infringement of Heathcoat's patent, so long as that patent lasted; but Brown would still have been entitled to a patent for the new character of his machine, and Heathcoat could not have used Brown's machine, without license, had Brown properly specified his patent.—W. C.

principle be the same, must be considered as the same in point of invention.

The defendant has called several witnesses to show that these early parts of the invention were in use before the time when Mr. Brown's patent was granted.

The first whom he has called is Mr. John Isaac Hawkins; and he says, he has considered Heathcoat's specification with great attention. He says, the bobbins in Heathcoat's are placed in carriages, and passed through the perpendicular threads. Heathcoat's bobbin travels round a perpendicular thread to form the twist, and then two bobbin threads move diagonally in opposite directions to form the cross. In Brown's, the bobbin travels round the perpendicular thread to make the twist, and then two of the perpendicular threads are made to cross each other to form the mesh, then these two perpendicular threads become diagonal; in both, the bobbins go round the perpendicular or beam threads. Now, up to this point, the operation of the two machines is similar. The cross bar of the lace, he says, is differently formed: there Brown's machine varies from Heathcoat's. The bobbins in both machines move in a curve; Heathcoat's under, and Brown's over. This is necessary to give an uniformity of tightness to the thread of the bobbin. There is in Brown's a centre bar, and in Heathcoat's a point bar to keep the work down to its proper dimension. The motions of these are very similar.

Being questioned upon this on his cross-examination, he says, the distinguishing difference between the two machines is, that in Heathcoat's the diagonal thread proceeds from the bobbins; in Brown's, it proceeds from the beam threads: the crossing, he says, is obtained by a different system, and that is material. And so, you see, he said in his examination in chief. Up to the crossing, he says, the operation of the two machines is perfectly similar; at the crossing they vary, and Brown's then assumes an operation which does not belong to Heathcoat's.

Then the next witness is Mr. Sylvester, who says that Heathcoat's machine has bobbins very similar to this, only rather larger; that they are used alike in both as to the operation of twisting; that Heathcoat's machine was in use two years before this patent; and he says, upon looking at Brown's, he thought Brown's, as far as it

went, an imitation of Heathcoat's: the impression upon his mind was, that Brown, in constructing his machine, had, at least to a certain extent, imitated Heathcoat's machine. He says, it is made to work downwards instead of upwards. Both go on rollers.

Mr. Millington is a civil engineer and philosophical lecturer in London, and he gives you a more full account of this than I think the preceding witnesses have. I should state to you, that the plaintiff's specification is divided into different sections: there are six sections, and he gives an account in each section of the component parts that form so much of the machinery as is described in that section. And there is one section, No. 5, to the whole of which the model produced on the part of the defendant, according to the witnesses, applies. Mr. Millington, having first said that he had studied the plaintiff's specification and seen the model made according to it, says, "I also saw several of the plaintiff's machines; six or eight cursorily, and one I examined minutely. I saw also a common warp lace-frame in use at Nottingham, and also a point net-frame. This, of which I now see a model (which, by the admission of all parties, forms the whole of section 5, in the specification of the plaintiff), forms part of the warp net machine." So that all those parts, and the combinations of them, which are combined in section 5, of the specification, are found in the warp net machine, which existed long before. This witness says also, "that there were point bars in the warp net machine, constructed nearly like the plaintiff's; they are put in motion by a spindle and arms, and a crank in the warp frames. It is moved by a spindle and a kind of swivel bar hanging upon pivots: this is essential to the warp engine. They are both applied to the same purpose, that of carrying up the stitch and holding it in its situation. I have seen Heathcoat's specification; the general movement of bobbins in it is the same in principle as in the plaintiff's. I agree in this with the last witness. Heathcoat's, I think, in this respect is better; the bobbins are constructed alike; the threads are a little different; there is no difference in principle, only in form. In the machine shown to the jury, the bobbins do not agree with the specified form of the bobbins, but they approximate more to Heathcoat's, and do not agree with the drawing in the specification: they

are placed in combs in both cases, and in both they are unlocked in the same way. The locking is more perfect in Heathcoat's: in both they move in the portion of a circle. In Heathcoat's there is a point bar to raise up the work; there the machines are very similar, that is, Heathcoat's and Brown's;" and, therefore, it is possible, that when he spoke of the point bar before, he was speaking of Heathcoat's. "I should say Brown's was an imitation of Heathcoat's, if he had seen it: two men may make the same thing, each without knowing what the other has done; but if I had known that he had seen Heathcoat's, I should certainly say, that made last was in imitation of the first. The spools are an improvement, they fall into a subsequent part of the operation; the construction and movement of the bobbins is an essential part of the machine; in that respect the two are alike as to the twisting; till they come up to the crossing of the threads, the machines resemble each other; after that a different manipulation takes place." I am glad the gentleman used so particular a word, because that fixes it in one's mind. He added, "The combination of principles of which this model which I hold in my hand is composed, is to be found in the warp machine; a machine which, ended with this, would be an useful one, though, of course, not so useful as those which contain further improvements."

Then Mr. John Farey, a civil engineer, says, "I think Brown's machine has combinations which are in Heathcoat's, and which produce an effect upon the lace. I have examined Heathcoat's, and seen it at work; there are bobbins used; in that respect the operation is the same in Brown's up to the crossing; then it becomes different; there is great merit in the former part."

Upon cross-examination, he says, "You can hardly make a new combination without embracing old combinations. I have seen Dawson's wheels in the warp machines; it is introduced into Brown's, but Brown's goes further. Brown's machine has some combinations which were in Heathcoat's, and which produce an effect upon the lace: there is this difference, that the diagonal threads come from two different quarters."

Then the next witness is Mr. Thomas Brookes, who says, "I have been employed some years in making lace; I have observed the bobbins in Brown's specification; I

knew them used in the lace manufactory three or four years before Brown's patent. I know what is called the gibbet; that also was used in the warp frames. I know the drivers, which drive the wheels, which we call clawers, and the wheels and cross bar; they have been used in the warp machine which I have known fifteen years; they produce the same effect as in Brown's machine: Brown's machine could not do without them. I use a machine for the manufacture of this species of lace, which I formed before Mr. Brown took out his patent."

Then the next witness is John Tarrett, who speaks of the forks and the dividers being used in lace machinery two and thirty years ago. Morris had a patent for them in 1782; and the witness says he was his servant. The forks take the threads out of the dividers.

Now, gentlemen, the objections made to this specification, upon this part of the case, are, that it goes further than it ought; that it states more to be the invention of Mr. Brown than really was so: and I think I may state generally to you, that they say that all that precedes the crossing of the threads is old, whereas he has stated it as a part of his invention; and besides that, they state that the forks and the dividers, which he has stated as a part of his invention, are equally old. I think, with respect to the principle, if there existed at the time Mr. Brown took out his patent, engines for the making of lace, of which his was only an improvement, then his patent ought to have been only for an improvement; and certainly, even if he could have supported his patent for an engine, his specification ought to have pointed out those parts only which were of his invention as those to which his privilege applied; and if you shall be of opinion that he has in his specification stated more than he is entitled to, by the proof in the case, as what was his invention, then in my opinion the specification will be bad.

Now the answer that the plaintiffs have endeavoured to give to that objection is this:—they say there is nothing in the world that is absolutely new; you may refer it all to first principles: the wheels are well known, and yet you may state them in your specification as one of the means by which you effect your purpose; levers are well known, but yet you may state them in the same way: that certainly is so. They go on to say, their invention consists not in this or that particular part of which their

*He ought to be
confine the invention
within the limits of
for it by previous invention
point out the
advances made
in the manufacture
by the invention*

machine is composed as being new, but in the conformation of all the parts of it, the novelty consisting in that conformation; and if the new conformation of all those parts was of the plaintiff's invention, then, although every one of the parts was old, they would be entitled to a patent for a machine composed by that new conformation of the whole; but if you find that another person had combined all those parts up to a given point, and that Mr. Brown took up his combination at that point, and went on combining beyond that, if the subsequent combinations alone were his invention, the former combinations he will have no right to. Those combinations could not exist before, unless there had existed an engine in which they were found; and if there existed before this time an engine in which they were found, it is for you to say, whether this which Mr. Brown has invented is any more than an improvement of that engine, or whether it is the invention of a new engine. If Mr. Brown has only invented an improvement of the old engine, be it Heathcoat's, or be it any one or two engines which existed before, then his specification, by which he claims the whole to himself, will be bad. If, on the other hand, you think that he has invented an engine which consists of a perfectly new conformation of parts, although all the parts were used before, yet he will be entitled to support his patent for a new machine.

Now I wish to have what I state upon this subject observed by the counsel on both sides, that they may be aware how I put it. If a conformation of those parts existed before;—if a combination of a certain number of those parts existed up to a given point before, and Mr. Brown's invention sprung from that point, and added other combinations to it, then I think his specification, stating the whole machine as his invention, is bad. If, on the other hand, you think he has the merit of inventing the combination of all the parts from the beginning, then I think his specification is good, and that he is entitled to your verdict. I have said nothing upon the fork bars and dividers, because precisely the same question arises out of them, only not so strong for the defendant; therefore, I think the case would be encumbered only by my saying anything upon the subject.

The counsel will take a note of the manner in which I have left the case to you; and you will say, first, whether

In the case of a new combination of old parts, I think one ought to define the old part as being taken in the invention

you think there is any fraudulent concealment in the specification; and next, if there was not, whether you think he has in his specification described an invention, as I have stated to you, to a greater extent than the proof goes to establish.

A Juryman.—It might be inadvertent, and not fraudulent.

Lord Chief Justice Gibbs.—Certainly; and if it was inadvertent, if he actually knew, and meant to practise that mode, and inadvertently did not state the whole in his specification, he must answer for his inadvertence; but it might be a subsequent discovery.

Verdict for the defendant.

Lord Chief Justice Gibbs.—Gentlemen, I will just ask you this; do you find that the combination of the parts up to the crossing of the threads is not new?

Foreman of the Jury.—Yes, my Lord.

A Juryman.—The threads then taking a new direction, and certainly the most valuable part to the plaintiff, is a new invention; but we are of opinion it is nothing more than an improvement.

BOVILL v. MOORE AND OTHERS.

In the Court of Common Pleas.—May 3, 1816.

THE plaintiff in this action was assignee of a patent granted to John Brown, for "a machine or machines for the manufacture of bobbin-lace or twist-net, similar to and resembling the Buckinghamshire lace-net, and French lace-net, as made by the hand with bobbins on pillows;" and this action was brought for infringing the patent by pirating this machine. The specification described the nature of the invention, and in what manner the same was to be performed, by six plans or drawings annexed to the specification, which represented the different parts of the machine, and different views of the whole.

The cause was tried at Guildhall, at the sittings after last Hilary Term, before *Lord Chief Justice Gibbs*,* when it appeared that the merits of the invention consisted in the mode of supplying the longitudinal or warp-threads, and the diagonal threads respectively; the former being

* *Ante*, p. 320.

supplied from distinct magazines, called bobbins and jacks, instead of from the beam, as in the common machines; by which means the workman was enabled to form his twist by their agency, which otherwise he could not have done; the latter being supplied from a roller or beam, to which the diagonal threads were fixed, and which, by means of a planetary or rotatory motion, disposed of those threads over the whole breadth of the piece of lace. On the other hand, the defendant proved that up to the point when the perpendicular threads cross each other for the purpose of forming the mesh, the operation of the machine was similar to the old machines, and particularly the one for which a Mr. Heathcoat had obtained a patent two years previously to that of Brown. It was contended by *Mr. Sergeant Copley*, on the part of the defendants, that though the contrivance above stated was new, and extremely useful, the specification ought to have pointed out that only, and the patent ought to have been for an improvement only; whereas the specification stated, and the patentee claimed, the whole machine as his invention. The *Chief Justice* told the jury that if they thought Brown had invented a perfectly new combination of parts from the beginning, though all the parts separately might have been used before, his specification would be good: but if they should be of opinion that a combination of a certain number of those parts had previously existed up to a certain point, and that Brown had taken up his invention from that point only, adding other combinations to it, then his specification, which stated the whole machine as his invention, was bad.

The jury were of opinion, that up to the point of crossing the threads, the combination was not new, and accordingly found a verdict for the defendant.

Mr. Solicitor-General (Shepherd) now moved that this verdict should be set aside, and a new trial granted. He admitted that the operation of the machine in question was, to a certain extent, the same as the former ones; but he insisted that the effect thereby produced was wholly different, viz., in the manner of supplying the threads. The good effect of the invention was not disputed, and that effect was begun to be produced the moment the machine began to work, though neither the novelty nor the excellence of the invention were immediately apparent. An improvement, in the legal sense of the word, was an

addition made to the machine, which was to take effect in a subsequent stage of the operation; whereas here, the whole texture was carried on by a new process. He therefore contended that the specification was correct in setting forth the whole machine by which this operation was produced.

Lord Chief Justice Gibbs.—If I really felt any doubt as to the propriety of this verdict, or thinking as decidedly as I do that the verdict was correct; if I found there were any doubts in the minds of the rest of the Court, I should be desirous of granting a rule to show cause, because this is a question of great importance to the parties: but after giving all the consideration possible to it, and after attentively hearing all that has been urged on the part of the plaintiff, no doubt remains in the minds of any of the Court. I think a little confusion has been made between a new machine for making lace, and lace made in a new method by a machine partly old and partly new. In order to try whether it be or be not a new machine throughout, we must consider what the patent purposes to give to the patentee, and what privileges he would possess under the patent. Now, the patentee is entitled to the sole use of this machine; and whoever imitates it, either in part or in whole, is subject to an action at the suit of the patentee. Suppose it had been a new invention from beginning to end, and after Brown had obtained his patent, Heathcoat had made a machine like those which he now makes, is there any doubt but that such a machine would have been an imitation, in part, of Brown's invention? Indeed, all the defendants' witnesses agreed in stating, that though the same thought might have occurred to two persons, yet if Brown had seen Heathcoat's machine before he made his own, they should have had no doubt but that, up to a certain point, Brown's was an imitation of Heathcoat's. It is not immaterial to consider that the drawings or plans of the machine were divided into six different sections, each containing a part of the machine in a different stage of its progress; and that as to one of them which contained all the principle of the warp, the witnesses said that every part of that section existed in the old machine; and that a machine carried no farther than that, would have been a very useful invention. How, then, can it be said, that Brown's specification, which described from its root a

machine containing a part which was common to Heathcoat's, does not contain more than Brown himself invented?

Mr. Justice Dallas.—After the full investigation which this case has undergone, I feel no doubt which would justify our sending it to another jury. As to the law, it is quite clear, that if the invention set up be only an addition, the patent must be for that addition only, as in the case of the invention of a particular movement of a watch. The case, therefore, resolves itself into a question of fact,—whether it be a new machine *in toto*, or from a certain point only; and so far from its being an entirely new invention, the witnesses said, that if Heathcoat's had been made after Brown's, it would have been an infringement on Brown's patent; such patent, therefore, to the extent contended for, was void.

If invention be only an addition, then must so describe & define.

Mr. Justice Parke.—The law was most fully and correctly laid down to the jury by his Lordship. Nor is this new doctrine; for in the case of the *King v. Else*,* *Mr. J. Buller* held that the patent must not be more extensive than the invention; and therefore, that if the invention consisted of an addition or improvement only, a patent for the whole machine was void. Now, in the present case, the jury have found, that up to a certain point the machine acts like the former ones; the invention, therefore, is only a valuable improvement.

Patent for the whole machine when invention is only for addition is bad.

Mr. Justice Abbott was absent.

Rule refused.

THE KING v. CUTLER.

In the Court of King's Bench.—1816.

THIS was a *scire facias* brought to repeal letters patent bearing date the 6th day of January, 1815, which had been granted for an invention claimed by the defendant.†

* *Ante*, p. 103.

† The specification was as follows:—

“To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said John Cutler, do hereby declare, that the nature of my said invention of certain improvements applicable to fire-places, stoves, &c., and the manner in which the same is to be performed, are particularly described and ascertained in manner following; that is to say: Firstly, with regard to the nature

The material question arising on the pleadings was, whether the invention was new.

It appeared, from the defendant's specification, that the invention consisted in a new mode of feeding the fire in a grate by a supply of fuel from below, instead of from above, in the usual way. The coals intended to be consumed in the course of the day, were to be deposited in a chamber beneath the grate, so placed that at first the higher surface of the chamber was to be on a level with the lower surface of the grate. The fire being afterwards lighted in the grate, as the coals in the grate were gradually consumed, their place was to be supplied by winding up the coals from the chamber, by means of a rack and pinion. The coals, as long as they remained in the box, were unignited, the air being excluded from below, and did not become ignited until, by being wound up into the grate, they had been brought into contact with

of the same, it doth consist in the offering fuel for combustion in a more beneficial and economical manner, which is effected by means of my said improvements, applicable to fire-places, stoves, &c.; and, secondly, with regard to the method of performing, it is clearly set forth hereinafter, and by the drawings or designs hereunto annexed, and figured 1, 2, 3, 4; of and in which the same parts are universally distinguished by the same numerical characters or letters of the alphabet."

[The specification then describes the invention by reference to the parts of the drawing, showing that there was to be a separate chamber for the fuel, out of which the fuel was to be raised up into the grate; and had that been claimed, and nothing more, there is no doubt that the patent might have been sustained. The witnesses at the trial agreed that that was new, but the claim goes far beyond such an invention. The claim was as follows:—]

"The amount of my said invention doth consist in the constructing of fire-places and stoves in such manner as that the fuel necessary to support or assist the combustion required, shall be given or afforded to the part or place in combustion at the lower part of, or from beneath, the same, either directly perpendicular, or in an oblique direction, and in the lowering by the same means the said fire or part ignited into a chamber, so that the same shall become extinguished. And that my said invention of certain improvements is applicable to fire-places, stoves, &c., by which I mean, any situation whatsoever where fuel is to be successively applied, or offered for the means of supporting combustion, for the purpose of heat. And as to the form, dimensions, or construction of and in the same, they may be varied and adapted to the situation, or other circumstances governing them; and which variations and adaptations any competent workman in works of this and the like nature can devise and execute.—In witness whereof, &c.

"JOHN CUTLER."

Cutter.
re Lacy's Patent.

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the coals previously ignited, and exposed to the access of the air.

In order to disprove the novelty of this invention, evidence was given that Mr. Marriott, a manufacturer of grates and stoves, had in the year 1812 made a grate (a model of which was produced), on the same principle. Mr. Marriott also stated that he had applied the same principle to a common stove long before the date of the patent. Another manufacturer proved that he had made a grate for cooking nearly on the same construction, before the patent.

For the patentee it was contended, that the invention went beyond that exhibited in the grates made before the patent, in those there was no fresh introduction of fuel into the grate, there was nothing more than a means of contracting or compressing coals already in the grate, and raising such fuel higher up, which could not be done without gradually diminishing the size of the grate itself. According to the patent, on the contrary, the chamber containing the fuel was independent of the grate and placed below it, and the fuel was gradually wound up from the chamber into the grate, without diminishing the size of the grate.

Lord Ellenborough.—The principle on which the two grates are constructed, is identical with that described in the terms of the specification, which is for supplying fuel from below, and there is nothing predicated in the specification of raising the fuel from a chamber below into the grate, it is generally for elevating a supply of fuel from below; had the defendant confined himself by thus summing up the extent of his invention, and not claimed the benefit of this principle, the patent might have been sustained.

It is had if it obtain a broad principle where only a means of carrying it into effect is innovated applied for the first time

Verdict for the Crown, and the patent was vacated.

IN RE LACY'S PATENT.

In the Court of Chancery.—July 25, 1816.

Mr. Bell stated, that this was an application to the Court, praying that his Lordship would not put the great seal to a patent which *Mr. Lacy*, of Nottingham, had

sought to obtain for making lace by a machine, to be worked by a steam-engine. The ground of objection to the patent was, that Mr. Lacy wanted to keep his specification secret for the space of fifteen months, which was contrary to the policy of the law, and a great injustice to the king's subjects in general.

Sir Samuel Romilly and *Mr. Hart*, on the part of Mr. Lacy, urged, that no injustice would be done to the public by granting the patent, and the State would be benefited in a peculiar way. Mr. Lacy had invented a machine for making French lace of the most beautiful texture; and if the benefit of his invention was secured to him, by enabling him to lodge the specification under certain restrictions, this country would be enabled to rival the French in the sale of that article in the continental markets. At present, the French, by having the materials and labour at a much cheaper rate, could afford to undersell us considerably in that very important branch of their manufactures; but if this patent were granted, the saving, with respect to labour, would be more than equal to the difference in price of the materials. This was the principal object for wishing to keep the specification secret: for there was reason to apprehend, that if the particular description of the invention should be enrolled within the usual period, copies thereof would be obtained by foreign agents, and transmitted to foreign countries, the inhabitants of which would have the benefit of making use of the invention before his Majesty's subjects could by law make use of the same; which would not only prevent the patentee from deriving the full advantage which he had reason to expect, but might also tend to diminish the benefit which the lace-manufactures of this country might otherwise derive therefrom. This was the ground upon which the Legislature had thought proper to grant an Act of Parliament (53 Geo. III. c. 179) to Mr. Lee, for securing his invention of preparing hemp and flax. By a proviso in the letters patent, which were granted for the term of fourteen years, that gentleman was allowed to keep his specification secret for fifteen months from the date thereof: and, with a view to secure the benefits of his invention to this country, the Act directed, that instead of causing the particular description of the invention to be enrolled according to the said proviso, he should deliver to the Lord Chancellor, within

fifteen months from the date of the letters patent, a particular description or specification of the nature of his invention, and in what manner the same was to be performed, by writing under his hand and seal; which specification, together with an affidavit made before a Master in Chancery, that it fully, completely, and accurately defined and described the whole and every part of such invention and discovery, and the method of using and employing the same for the uses and purposes therein set forth, should be enclosed in a cover under the seal of the Lord Chancellor, and lodged in the office of one of the Masters in Chancery, to be nominated successively, from time to time, as occasion might require. The second clause of the Act declared, that the said packet should not be removed from the custody of the Master in Chancery on any account or pretence whatever, except by order of the Lord Chancellor, who should have power to call for and have the same whenever there should be occasion to have recourse thereto, either on account of application being made for patents for other discoveries or inventions, which there might be reason to apprehend might be of a nature similar to the said invention, or on account of any trial at law respecting the same, or in any other case in which it might be judged by the Lord Chancellor necessary or proper to inspect the same; in all which cases the seal of the said packet might be broken by the Lord Chancellor; and after such use should have been made of the said specification, as occasion should require, the same should be again sealed up, and deposited with a Master in Chancery, as before directed. And by the fifth clause it was enacted, that the said packet, so to be deposited, should be kept and remain sealed and unopened (except as aforesaid) until the expiration of the term of seven years from the passing of the Act, at which time the specification should be enrolled in manner directed by the proviso contained in the letters patent, there to be and remain public for the benefit of all his Majesty's subjects. These were the particular privileges which the Legislature had given to Mr. Lee, for the purpose of securing the benefits of his invention to this country; and as Mr. Lacy had made an affidavit that he intended to apply for a similar Act of Parliament, the Learned Counsel hoped that his Lordship would not withhold the great seal from the patent.

In re Lacy's Patent
Walker v. Congreve.

The Lord Chancellor Eldon said, that he could not put the great seal to a patent which gave the party fifteen months to make out his specification. In the present reign thousands of patents had been granted, and this indulgence was extended only in two or three of them. Where the letters patent were for an invention to be used in England, Scotland, and Ireland, the usual period for the specification was six months; but where they were confined to England only, two months was the given time. Mr. Lee's case was a very peculiar one; it was for securing to the State, in a time of war, the benefit of a most important discovery. If Mr. Lacy could make out that the State was to be benefitted by his invention in any peculiar way, as in the case of preparing hemp and flax, it might be doubtful whether he might not have a secret specification. His Lordship was of opinion, however, that the Legislature would pause a long time before they passed such an Act in future; and he thought he might venture to say, that if Mr. Lacy were to apply for such an Act he would not procure it. The gentleman had said, that if this specification was not kept secret the French might copy it; but his Lordship could not establish a new principle merely to prevent the French from smuggling; neither could he put the great seal to a patent without seeing the specification, for it might turn out not to be worth a farthing, and then public genius would be discouraged merely for the benefit of the patentee. Many cases of this nature had occurred. The patent could not pass without the responsibility of the great seal; and if his Lordship could bring himself to pass it, he might be called upon to give an account in Parliament why he had extended this particular privilege to this individual. It was certainly contrary to the general policy of the law, and he could not in justice to the King's subjects affix the great seal to it merely because it was a manufacture which other countries had in common with this.

WALKER v. CONGREVE.

In the Court of Chancery.—July 27, 1816.

Sir Samuel Romilly for the plaintiff stated that a breach of the injunction which had been obtained by the

plaintiff to restrain the defendant, had been committed by the defendant, Sir William Congreve. The injunction restrained the defendant from making, or causing to be made, certain barrels for preserving and conveying gunpowder, alleged to be imitations of machines or vessels for which he, the plaintiff, had procured a patent; and the Learned Gentleman moved, that for so breaking the injunction the defendant be committed for a contempt.*

* In this case an injunction was obtained, *ex parte*, subsequently the defendant continued to make for the Government, in defiance of the injunction. The specification of the patent was as follows:—

“To all to whom these presents shall come, I, James Walker, of Wapping, in the county of Middlesex, Ship chandler, send greeting, Whereas his Most Excellent Majesty King George the Third, did by his Letters patent, under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the seventh day of September, in the fiftieth year of his reign, give and grant unto me, the said James Walker, my executors, administrators, and assigns, his especial license, full power, sole privilege, and authority, that I, the said James Walker, my executors, administrators, and assigns, during the term of years therein mentioned, should, and lawfully might, make, use, exercise, and vend, within England, Wales, and the town of Berwick-upon-Tweed, my invention of ‘An improved machine or vessel for the safe conveyance of gunpowder, and for its preservation from injury by damp.’ In which letters patent, there is contained a proviso, obliging me the said James Walker, by an instrument in writing under my hand and seal, to cause a particular description of the nature of my said invention, and in what manner the same is to be performed, to be enrolled in the High Court of Chancery within two calendar months after the date of the said recited letters patent, as in and by the same relation being thereunto had, may more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said James Walker, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained, as follows, that is to say,—

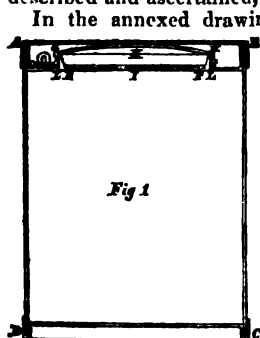
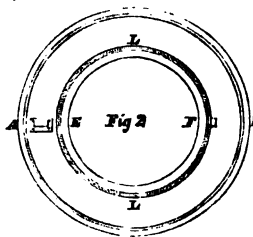


Fig 1

In the annexed drawings, figure 1 represents my said machine or vessel, made of copper, brass, or any other fit material for the intended purpose, but I give the preference to copper, and of any dimensions that may be required, the form is cylindrical, but may be varied, though not, in my opinion, with advantage. A, B, and C, D, represent stout hoops or strengthening pieces, soldered, riveted, or otherwise, firmly connected with the vessel so as to project beyond the extremities thereof, and afford chimes which serve to defend the heads of the vessel from injury, and afford firm and convenient hold for removing the same; and I do further strengthen the

Mr. Leach, for the defendant, stated that he had a notice of motion to dissolve the injunction in question, and requested to be heard first.

said vessel by one or more other hoops if required, which may be fixed and applied either within, or on the outside, of the same, at the top, *a*, *n*, of the said vessel, of which the plan is also shown in figure 2, the



head consists of a circular piece having a large perforation, *e*, *f*, upon which stands the rim or upright circular piece *L*, *L*, of a larger diameter than the opening *e*, *f*, and upon, and around the said rim *L*, *L*, a cover *o*, *n*, is applied, which may be opened by any joint of the nature of an hinge, at *n*, but I prefer a simple stud or pin, standing outward from *L*, and passing through a hole in the rim of the cover at *n*, and the said cover has a piece pro-

jecting on the side *o*, from its lower edge, in which piece there is a slit of the nature of an hasp, which goes over a staple in the head of the vessel, and affords the means of closing the same by a bolt or pin, or a copper padlock, or other usual means of completing such fastenings. *i*, represents a thin plate of copper, or lead, or zinc, or other flexible metallic substance, which fits, or nearly fits, the internal space within the rim *L*, *L*, and is used as a first cover by placing it upon the projecting part *e*, *f*, and securing the joint, if thought fit, by the application of putty or some other proper luting or cement, in the angle near the circumference thereof, and I do put upon the said piece, *i*, a round piece of leather, flannel, or other like material, sufficiently large to extend beyond the rims, *L*, *L*, and I do press into the space *x*, upon the leather, flannel, or other like material, a round flat piece of wood, or an hoop or ring, of copper, brass, or other proper material, which fits that space so nearly as to require a moderate pressure to send them home, after which the cover, *o*, *n*, is to be put on, and the whole will be perfectly secure. And, further, that when it shall at any time be required to open the said vessel, the same may be effected without any difficulty, or the use of any appropriate tools, namely, by first taking off the cover *o*, *n*, and in the next place, raising the wooden cover, by pulling at one side of the leather, flannel, or other like material, or by any other obvious means; and, lastly, by giving a stroke with a mallet, or otherwise, upon the metallic plate, *i*, when the putty or cement joint will give way, and the plate may be pulled up. And, lastly, I do declare, that among the numerous advantages with regard to economy, safety, and the facility of use in this my said invention, it is singularly worthy of notice, that gunpowder either in cartridges, or loose quill tubes, and priming cartridges, may at once be packed in vessels constructed as hereinbefore described, and kept perfectly dry, and in their original state, for any length of time, without ever requiring to be sent on shore to be dried, or taken out of the vessels till wanted for use, that there can be no scattering nor waste, and more especially that all the danger of filling cartridges in the powder rooms of ships of war, and elsewhere, particularly during the time of action, is removed, by charging the said vessels at the mills, magazines, or arsenals, with cartridges ready made

Sir Samuel Romilly urged, that as an injunction had been granted, the infringement of which was complained of, the question of that infringement should be first heard. The two motions were perfectly distinct. The Court might be treated with contempt by breaking its injunction while that injunction continued, even though the defendant might subsequently state sufficient reasons why it should never have been granted.

Mr. Leach said, he did not consider it a matter of much consequence which motion was heard first; but thought that neither of them could be heard to advantage while the models were not in court. Not expecting the cause to come on so soon, he had not yet received the models, which he expected in a short time.

The Lord Chancellor Eldon.—That, *Mr. Leach*, is a different ground.

Sir Samuel Romilly then contended, that as an answer was given in to the plaintiff's bill by the defendant without obtaining an order to dissolve the injunction, even though that injunction should be immediately dissolved, the defendant had incurred the penalties of contempt by infringing it while in force. He had always understood that it was not competent for a party, when accused of contemning the authority of the Court by infringing its order, to plead in their justification that such an order to restrain should not have issued, that the patent which they were prohibited from imitating was not a good one, or that the machines which were alleged in the injunction to be copied from it were not imitations; yet such was the only defence contained in *Sir William Congreve's* answer.

The Lord Chancellor said, that there was nothing more

up, and adapted to the several exigences of the land and sea service, whether in their actual dimensions or in the quantities to be filled in each cartridge, to adapt the same to artillery when it shall have become heated, and that the quantity of gunpowder, and the numerous tools, implements, hides, and other materials, which will be saved by the use of my said invention, and the diminished expenditure of the cartridges, which will not be exposed to rot, nor to the necessity of being changed or shifted, do form an amount of saving which is immense, and that I do not in this present specification, enter into any further detail of the said advantages, because the same cannot but become manifest in the use and application of the said machine or vessel.—In witness thereof, &c.

JAMES WALKER.

A patentee obtains an injunction only subject to its being found valid in law, but such injunction cannot be broken on the ground of its error

clear or indisputable than what he was about to state. If a person procures a patent, going through the necessary forms, and obtains an injunction against an alleged infringement of it, his patent may still be found, upon examination, to be an improper one; but the defendant, against whom the injunction is decreed, has no right to break it, upon the ground that it should not have been granted. He might shew the Court reasons for dissolving it; but he himself could have none for breaking it. Again, the injunction might be granted upon a defective affidavit, though upon a strong representation; but still the defendant would be bound by it, while it was in force, and would commit a contempt in disobeying it. In the third place, an injunction might issue against a public servant, who as such was not liable to the consequences of a private suit, and against whom an injunction should not therefore have been granted; but even here the authority of the Court must be respected, and the injunction dissolved by its own act, and not broken by the party whom it was issued to restrain. This was the clear doctrine of the Court; but when a motion was made for the penalties of contempt, all alleviating circumstances were matters for grave consideration. He would, therefore hear first the other motion before he decided upon this.

Mr. Leach proceeded to argue, that there was no infraction of the injunction, nor of the patent. The Learned Gentleman said, he would contend, first, that the specification of the plaintiff's patent, though it could be made out to be new, was not of such a nature as came within the statute of monopolies; or did not exhibit such proofs of skill and invention as entitled it to the protection of that law that encouraged the exertions of genius, by enabling its possessor to reap more exclusively its rewards. Every thing new was not an invention worthy of a patent, nor could every original former of a machine be called an inventor. He would argue, secondly, that the invention of the plaintiff, though of such importance as to come within the statute of monopolies, contained no novelty, as a similar machine was employed at Woolwich in 1791. Thirdly, he would show that the defendant's machines were both new and important. He had no right to restrain the defendant from the manufacture of those which he was making, as they

were no imitation of the plaintiff's patent, and therefore no infraction of the injunction of the Court. The defendant, in his answer, submitted that he was not amenable for a contempt, as he was acting in a public capacity, and for the public service, while he superintended the making of the machines of which the patentee complained; but on that ground the Learned Counsel did not wish to enter, as he was sure the Government was not disposed, on the part of the public, to take advantage of a private individual.

(The patentee was then allowed to explain to the Court his invention, and showed the resemblance between the barrels of the patent, and those made by defendant.)

The Learned Counsel continued, that every novelty was not an invention entitled to the protection of the statute of monopolies. A new principle must be discovered—skill and ingenuity must be exerted to entitle an inventor to a patent. The making of an old machine of new materials could not be a discovery; and the plaintiff could claim no protection for an invention, the only merit of which consisted in being made of brass instead of wood. When tea was first introduced into this country earthenware tea-pots were used: but could a person who made the first one of silver be entitled to a patent, restraining all his fellow-subjects from silver tea-pots except bought of him? Next it was said that the form was new: but was the invention of making a barrel like a cylinder worthy of being protected by the statute of monopolies? Well, said the patentee, but my barrel is strengthened with hoops; and was it a new thing, displaying great ingenuity, to strengthen a barrel with hoops? Was the circular aperture a great invention? No, but the method of shutting it was new; and that was the novelty of placing upon a circular aperture a common pot lid? The different parts of the invention that are new, are unimportant, and similar machines had been before used in the ordnance. Sir William Congreve did not consider he was infringing on the plaintiff's discovery. Since the injunction, he had refrained from making the barrels; but having received a letter from the Ordnance-office to forward some which had been made before for the public service, he forwarded them accordingly, considering it his public duty so to do.

Mr. Wilson, on the same side, said, Sir William Congreve resisted the injunction for the sake of the public, and not for his own advantage. Were the interests of the country to be delayed because an individual says, you are using my machines? But what could the plaintiff point out as original in his machines? It could not be in the aperture; it could not be in the hoops, nor in the manner of closing the mouth. It was sufficient to say, that upon the answer, the injunction ought to be dissolved. What was alleged to be done was not within the terms of the injunction. The injunction was to restrain Sir William Congreve, his workmen, servants, and agents, from making, or causing to be made, or vended, any more machines; and the affidavit of Sir William Congreve stated, that none of these machines had been made since the injunction was obtained.

Sir Samuel Romilly, in reply, said, as to the application to dissolve the injunction, the first question asked on the other side was, could the plaintiff have a patent for this? Could he have a patent for a bung, for a hoop, for a lid? He was pretty sure that the plaintiff never attempted to get a patent for any of these things. The real question was, whether an individual, who combined all these things for the first time, was entitled to a patent for them? It was not to be allowed, that each thing should be taken by itself, and then to say, for this one thing you cannot have a patent. The next question was, whether this was a new invention? His Lordship was to dispose of this only on the answer and affidavits, without taking into consideration the machines which had been shown. Now, he could not find it stated any where that machines of metal had been before made to answer the same purposes, and, under these circumstances, he submitted that the plaintiff was entitled to keep the injunction, and that there had been a violation of the injunction.

Mr. Bell followed on the same side. He conceived it was not necessary to show that all the parts of the plaintiff's machine were new. Again, it was not necessary to shew, that an invention was the result of long application or deep skill. He remembered that, many years ago, ladies wore flowered tabbies, which were considered a very ornamental dress. The method of working the flowers was discovered by mere accident: a man having spit on the floor placed his hot iron on it, and observed

that it spread out into a kind of flower. He afterwards tried the experiment on linen, and found it produced the same effect. He then applied for a patent, on the ground of a new discovery; and having obtained it, he lived to make a very considerable fortune. A similar case was that of the steam-engine, where a boy, in order to shorten his own labour, tied a string with a knot from one part of a machine to another, which led to the most important improvement that had ever been known. The Learned Counsel humbly conceived, that nothing like the plaintiff's machine had been hitherto used in practice. The only question was, how were flannel cartridges packed up by Government before? They were packed up in a common wooden barrel, and not in a metallic machine like the plaintiff's; hence it must be admitted, that the plaintiff was the inventor, and he humbly conceived his Lordship would think that the plaintiff had made out his claim to a very useful invention.

Mr. Blenman on the same side, said that the plaintiff did not allege against Sir William that he was selling the machines, but that he was supplying His Majesty's navy with them, to the prejudice of the plaintiff, who would otherwise be applied to by the Ordnance for his barrels.

The Lord Chancellor.—The plaintiff's bill alleges that the defendant was making the machines, and in the affidavit it was stated that he had supplied a vessel belonging to the East India Company with them, which amounted to a sale.

Mr. Blenman continued, and went over the arguments of *Mr. Leach*, contending that his criterion of an invention that deserved protection from the statute of monopolies was not just. The discovery of a new principle was not necessary to make out an invention, otherwise the application of a piece of loadstone to the needle that guided mariners in their voyages did not deserve the name of an invention, because the properties of the loadstone were previously known. Neither was it necessary that all the parts of the machine should be original, otherwise telescopes were not an invention, because the different glasses taken separately were formerly known. The Learned Gentleman then urged, that the case now attempted to be made out by the defendant, that the invention was not

new, had not succeeded. The conduct of the defendant would shew this, he had been called on by Government to report on Walker's patent barrels, and he had made three reports, two of them were dated 1810, and the last was dated August, 1811. In these reports Sir William Congreve had stated, that the metal barrels of the patent were not suited to preserve gunpowder for the service of the Royal navy; that one had been made in 1791 in the Royal laboratory more suitable for the purpose. The report also stated that the barrel made in 1791, was very different to Walker's and much better; and now it was attempted by the defendant to be said that Walker's invention was not new because of this barrel being made in 1791. The reports also stated that the idea of packing cartridges in metal barrels, suggested in the specification, would prove impracticable. The reports argued that the hooped barrels of wood, were better suited for the purpose. The Learned Gentleman contended that nothing could be more clear than that the reports proved the whole of the plaintiff's case. If the metal barrels of the patent were so useless and objectionable as the defendant in his reports had attempted to make them appear, why had they not brought that of 1791 into use, why had the Government abandoned the use of their barrels of hooped wood, and engaged the defendant in making metal barrels, substantially the same as the patented ones? The plaintiff's invention must now be acknowledged to be new: had the defendant considered metal barrels not to be new when he made his reports, he would have told the Government, that it was already the property of the public, and that they need not pay Mr. Walker for its use. The navy are now supplied with these machines; and by their use, the whole system of preserving powder on board his Majesty's ships was altered, and this had been brought about by Mr. Walker, not by what they had done in the Royal laboratory, in 1791. In 1810, and 1811, the Comptroller of the Royal laboratory, the defendant, had declared the plan of the plaintiff's barrels to be impracticable; but, now it is contended by the defendant, that it had been in practice for twenty-five years, but, strange to say, the barrels were shown not to have been distributed in the navy till 1814, four years after the patent of the plaintiff.

The Lord Chancellor requested to see the barrel of the plaintiff's patent, and also that complained of as being made by the defendant in violation of the injunction and of the patent. He wished to know in what the piracy was alleged to consist.* His Lordship said, the question is whether the barrel of the defendant may be considered as a metallic barrel enclosed in one of wood, or merely as a wooden barrel lined with a coating of lead, in the manner of a tea-chest. If the lead be considered as constituting a separate vessel capable of being detached from

* Previous to 1810, the barrels used for containing gunpowder by the navy and ordnance departments, consisted of wood bound with copper hoops, and it was generally considered a great novelty to construct barrels of metal for receiving gunpowder and cartridges; at first it was contended by parties in the ordnance department, (as was said very generally in respect to supplying water by iron pipes in place of wooden ones, and as is very commonly said in cases of new inventions, where comparatively small changes produce very important results,) that they would never answer, that there would be a prejudicial chemical action between the gunpowder and the metal; then when the barrels began to come into use and were appreciated, it was said that there was no invention, that it was only substituting one material for another. At the date of this patent much inquiry had been made by Government as to the manner in which gunpowder had been preserved, and the returns made to Parliament showed that in twenty years, commencing January, 1789, and ending in 1810, the gunpowder made by, and supplied to, the Government, amounted to 649,388 barrels, of which 327,750 barrels had been returned injured by damp, which powder was only half the value of its original cost, and this was said to have been wholly caused by the wooden barrels not offering a secure means of protecting and preserving gunpowder from becoming damp. The plaintiff in this suit complained that the defendant, Sir William Congreve, who was at that time Comptroller of the Royal laboratory, had made for the Government and the East India Company, barrels of thin lead, enclosed in barrels of wood, bound with hoops. In this case there was not, owing to the defendant's answer having been put in without application to dissolve the injunction, any evidence on oath, by practical and scientific men, for and against the patent in question, pointing out the nature of the invention and of the infringement, and the Court was left to judge for itself, by simply inspecting the barrels, whether the patent was valid, and had been infringed, without any evidence of facts to form a judgment upon. By the present practice of applying on affidavits to have an injunction dissolved, the Court of Chancery is put more fully in possession of all facts for and against the patent in question, by which the Court is now much better able to come to a decision on the merits of a case, and often does so, without sending it to a Court of law for a jury to decide on disputed points, unless those points are such as the Court may consider to require the verdict of a jury, before it can give its own judgment.

W. C.

the wood, there may be some reason to conclude it an imitation of the patent.

Mr. Blenman.—The lead constitutes a separate machine, and the defendant has ordered some to be constructed of a stronger metal, copper, which assimilates the barrels still more.

The Lord Chancellor.—Will the Government have any objection to keep an account of the barrels made, till a trial be had to ascertain the question of infringement, and the validity of the patent. The public service may thus proceed without interruption, and the plaintiff will have security for his profits should the decision be in his favour.

Mr. Leach.—There will be no objection to such an arrangement.

The Lord Chancellor.—There has been an *ex parte* injunction granted in this case, and I think I ought not to have granted it before hearing the other side. Had I read the bill and affidavit with strict attention I think I should not have granted the injunction. I would wish to speak with all respect that I ought of Sir William Congreve, in his official and individual character, but I must tell him what I would tell any other man who is brought as a suitor into this court, that he must not disobey its orders. He might have moved to dissolve its injunction, but he could claim no right to infringe it; I confess upon an examination of the two barrels, that I see so much similarity between them, that were the defendant's barrel of copper, instead of lead as it is, it would amount to a violation of the injunction and of the patent; the question is one for a jury. Speaking with all respect I will treat Government here, as I would any suitor of the Court. Let an account be kept of all machines made in alleged violation of the plaintiff's patent, subject to the profits to which the plaintiff will be entitled, if the patent has been infringed. I thus secure to Mr. Walker all that he can wish, or all that he is entitled to obtain. In the meantime let the injunction be dissolved, and let the defendant proceed in supplying the demands of the public service, subject only to account at the instance of the plaintiff, on the trial of the legal issue. I would recommend to Government to pay the costs of the present applications, as there are grounds for believing the injunction violated.

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I can only recommend to Government, but I would have it understood that if the recommendation is not attended to, I will make an order for the defendant, Sir William Congreve, to pay them.

The injunction was dissolved accordingly. It does not appear that the Government afterwards contested the question with the patentee. Copper barrels in wood and hooped were subsequently introduced into the navy.

NEWBERY v. JAMES AND OTHERS.

In the Court of Chancery.—March 27, 1817.

THIS was a bill filed for the specific performance of an agreement entered into by Dr. R. James and the plaintiff's late father. It was agreed between the parties, that Dr. James having invented certain pills for the cure of the gout, &c., and also certain powders for the cure of fever, &c., that Dr. James, for the considerations mentioned, should for the term of twenty-one years make and sell the pills and powders, at the prices set forth, to Newbery, and that he should not sell to any other person (excepting that he might send them to his own patients); it was also agreed that Dr. James should instruct Mr. Newbery as to the mode of making, so that the secret should not be lost, but that Newbery was not to make the medicine so long as Dr. James continued the supply. The bill then set forth a deed made on this agreement, and that letters patent* were taken by Dr. James for the powder, and one half assigned to Newbery. The bill also set forth another deed of 1775, by which the term was extended to an indefinite period. The patent expired in 1761. Mr. Newbery died, and by his will left all his interest to his son, the plaintiff. Dr. James died in 1776, and left his son, R. H. James, all his right in the secrets. Mr. R. H. James, after his father's death, continued to make and supply the plaintiff according to the terms of the deed of 1755, and of the original agreement, until his death in 1801, when by his will he gave to his executors the management of the concern, till his son, the defendant,

* There would be no utility in giving the specification.

attained the age of twenty-four ; and the will directed that the medicines should be delivered, as before, to the plaintiff. The bill set forth that the defendant and the executors had threatened to communicate the secrets of preparing the medicines ; and prayed that the sale should be to none other but the plaintiff, and for an injunction to restrain the defendants from parting with the medicines or the secrets to others, and that they be required to be bound to the plaintiff. On this bill an *ex parte* injunction was obtained, and the defendants in their answer set forth various acts, done by the plaintiff, to show that he had abandoned the rights under the deeds and wills, and the defendants contended that they had a right to do what they pleased with the secrets and the medicines produced according thereto.

Mr. Bell and *Mr. Courtenay* supported the motion for dissolving the injunction.

Sir Samuel Romilly, *Mr. Leach*, and *Mr. Trower*, opposed the motion.

The Lord Chancellor Eldon said, the difficulty in such a case was, how to decree the specific performance of the agreement. Either it was a secret or it was none. If a secret, what means did the Court possess of interfering so as to enforce its own orders ? if none, there was no ground for interfering. The injunction being already granted *ex parte*, afforded no reason for its continuance, even though the answer had not materially varied the case made by the bill ; it being granted without prejudice to any question that might be made in the cause. In this case, the medicines in question were the subject of a patent which had expired ; and the agreement which the bill sought to enforce, was an agreement, by which, independently of the patent, the proprietors had entered into covenants not to sell that which was the subject of the patent except to each other. But in order to support a patent, the specification should be so clear, as to enable all the world to use the invention, as soon as the term for which it had been granted was at an end. Then, with regard to the analeptic pills, for which no patent had been procured, if the art and method of preparing them were a secret, what signified an injunction, the Court possessing no means of determining on any occasion, whether it had, or had not, been violated ? This Court could do nothing but put parties in a way to try their legal rights by an action.

This was the utmost extent to which it would go, and he would not even order the injunction to be continued in the meantime till an action should be tried. The only way by which a specific performance could be effected would be by a perpetual injunction; but this would be of no avail, unless a disclosure were made to enable the Court to ascertain whether it was or was not infringed; for, if a party comes here to complain of a breach of injunction, it is incumbent on him first to shew that the injunction has been violated.

His *Lordship* concluded by saying, that he thought he ought not to continue the injunction; and that, if he did not mention the case again, his opinion must be considered to be that the injunction must be dissolved, the defendants to keep an account of what they sell, and the Court to give the parties the means of trying their rights in an action, by removing out of their way the difficulty arising from the circumstance of the plaintiff being one of Dr. James's executors.

HILL v. THOMPSON AND FORMAN.

In the Court of Chancery.—April 24, 1817.

A BILL had been filed by the plaintiff against the defendants, and an injunction had been obtained on an *ex parte* application to restrain the defendants from making, using, and vending, iron according to the plaintiff's patent.* The defendants having put in their

* The specification was as follows:—To all to whom these presents shall come, &c. Now know ye, that in compliance with the said proviso, I the said Anthony Hill do hereby declare that the nature of my said invention for "certain improvements in the smelting and working of iron," and the manner of performing the same, are fully described and ascertained in manner following; that is to say: My said improvements do consist in the manipulations, processes, and means hereinafter described and set forth, and by which the iron contained in the several sorts of slags or cinders produced in, or obtained from, the refinery-furnace, the puddling-furnace, and the balling or re-heating-furnace, and which are produced in consequence of, or by or during the operations of, rolling, or by any treatment to which the crude or pig-iron of the blast-furnace may be, or is usually, subjected, in order to improve or alter the quality of the same, is by smelting and working made into, or brought into, the state of bar-iron, whether only one of the said several sorts of slags or cinders be used, or whether all the said sorts of the said slags or cinders, or any

answer, applied to have the injunction dissolved ; setting up the defence, that the slags obtained in iron-works had

of the said several sorts of them, be mixed together and used ; or whether all the said sorts of the said slags or cinders, or any one or more of the said sorts of them, be compounded with iron-stones or iron-ores, or with both of them, whether all the said several compounds be used together, or whether only one or more of the said several compounds be used, or whether only one of the several sorts of crude or pig-iron obtained from the said slags or cinders, or the aforesaid mixtures of them be used ; or whether all or any of the said several sorts of crude or pig-iron be mixed and used together, or whether they, or any one or more of them, be mixed with one or more sort or sorts of any other crude or pig-iron and used ; or whether only one of the several sorts of crude or pig-iron obtained from all or any or either of the said compounds of the said slags or cinders with iron-stones or ores be used, or whether all or any of the said last-mentioned several sorts of crude or pig-iron be mixed and used together ; or whether they or any one or more of them be mixed with any one or more sort or sorts of any other crude or pig-iron and used ; or whether all or any or either of the aforesaid sorts of crude or pig-iron be compounded and used with refined metal, obtained from the said slags or cinders, or from the said mixtures thereof, or from the said compounds of the said slags or cinders with iron stones and ores, or with the refined metal of any other iron, or whether only one of the several sorts of refined metal obtained from the said slags or cinders, or from the said mixtures thereof, or from the said last-mentioned compounds be used ; or whether all or any of the said last-mentioned refined metals be mixed and used together, or whether they or any one or more of them be mixed with any one or more sort or sorts of refined metal of any other iron and used ; or whether only one of the several sorts of puddled-iron obtained from the said slags or cinders, or from the said mixtures thereof, or from the said last-mentioned compounds, be used ; or whether all or any of the said last-mentioned puddled-irons be mixed and used together, or whether they or any one or more of them be mixed with any one or more sort or sorts of any other puddled-iron and used.

And that my said improvements do further consist in the use and application of lime to iron, subsequently to the operations of the blast furnace, whereby that quality in iron, from which the iron is called cold short, howsoever and from whatever substance such iron be obtained, is sufficiently prevented or remedied, and by which such iron is rendered more tough when cold.

And I do further declare, that in the said smelting and working I do use a mixture of lime or lime-stone, and of the substance in which the iron-stones are generally found, and which is known in South Wales by the name of mine-rubbish, whether raw or calcined, consisting, by weight, of about six parts of good lime-stone to five parts of raw mine-rubbish. Which said mixture I do apply, together with the other materials operated upon in the blast-furnace, for the purpose of producing a fusible cinder ; and that the proportions of the said lime-stone and mine-rubbish, composing the said mixture, may be varied, without materially impairing the beneficial effects thereof. And that in smelting and working by the usual working of the blast-furnace, all or any or

been used in making iron before, and that lime had before been used, and if lime would prevent cold short in iron

either of the said sorts of the said slags or cinders, or the aforesaid mixtures of them, or all or any or either of the said compounds thereof with iron-stones or ores, when such slags or cinders or compounds last-mentioned, are known by assay or otherwise, to be capable of affording crude or pig-iron to the amount of fifty per cent. or thereabouts, by weight, I do, in order to make one charge, take and use eighteen cubic feet, by measure, or about four hundred and fifty pounds, by weight, of coke, and from three hundred pounds to four hundred and twenty pounds of the said slags or cinders, or the said last-mentioned mixtures or compounds, and from seventy pounds to ninety-five pounds of the said raw mine-rubbish, and from one hundred and eighty pounds to two hundred and forty pounds of the said lime-stone, or from one hundred and ten pounds to one hundred and forty-five pounds of lime; which charge I do repeat according to the usual manner of filling and working the blast furnace. But that when the said slags or cinders, or the said last-mentioned mixtures or compounds, which are known, by assay or otherwise, to contain respectively either more or less than fifty per cent., by weight, of crude or pig-iron, are required to be smelted and worked by the usual working of the blast-furnace, it will be necessary, in order to produce the best effect, that the quantity and proportions thereof, and of the lime-stone and raw mine-rubbish to be made use of in the charge as aforesaid, should be varied.

And that, as a general rule of practice to be adopted and followed, I declare that I do mix all or any or either of the said sorts of the said slags or cinders with raw mine-rubbish if required; or I do mix all or any or either of the said last-mentioned compounds with raw mine-rubbish, if required, until the crude or pig-iron contained in either of such aggregate mixture shall amount to about forty per cent., or less than forty per cent. if so wished. And then, in order to constitute a charge, I do take from either or both of such aggregate mixtures from three hundred and fifty pounds to five hundred and fifty pounds in the whole, and eighteen cubic feet by measure, or about four hundred and fifty pounds by weight, of coke. And I do flux the whole, by adding six parts, by weight, of lime-stone for every five of such parts of the raw mine-rubbish as may have been used for the purpose last before-mentioned. And I do add so much more lime or lime-stone as may be known, by assay or otherwise, to be required to produce a fusible cinder.

And further, that it will be adviseable to reduce the said slags or cinders, or the said mixtures of the said slags or cinders, or the said compounds of the said slags or cinders, with the said iron-stones and ores, and the lime-stone and raw mine-rubbish aforesaid, previous to their being put into the blast-furnace, to about the size at which materials are commonly used in the blast-furnace.

And further, I do draw off from the blast-furnace the crude or pig-iron afforded by the said slags or cinders, or by the said last-mentioned mixtures or compounds. And I do make the several sorts of crude or pig-iron obtained from the said slags or cinders, or from the said last-mentioned mixtures or compounds, into bar-iron, by puddling, re-heat-ing, and rolling, compressing, or hammering, or by refining, puddling,

the previous use must have prevented that quality of iron being made.

re-heating, and rolling, compressing, or hammering, whether only one of the said several sorts of crude or pig-iron be used, or whether all or any of the said several sorts of crude or pig-iron be mixed and used together, or whether they or any one or more of them be mixed with any one or more sort or sorts of any other crude or pig-iron, and used; or whether all or any or either of the aforesaid sorts of crude or pig-iron be compounded and used with refined metal obtained from the said slags or cinders, or from the said mixtures thereof, or from the said compounds of the said slags or cinders with iron-stones or ores, or with the refined metal of any other iron, and used; or whether only one of the several sorts of refined metal obtained from the said slags or cinders, or from the said mixtures thereof, or from the said last-mentioned compounds, be used; or whether all or any of the said last-mentioned refined metals be mixed and used together; or whether they or any or more of them be mixed with any one or more sort or sorts of refined metal from any other iron, and used; or whether only one of the several sorts of puddled-iron obtained from the said slags or cinders, or from the said mixtures thereof, or from the said last-mentioned compounds, be used; or whether all or any of the said last-mentioned puddled-irons be mixed and used together; or whether they, or any one or more of them, be mixed with any one or more sort or sorts of any other puddled-iron, and used.

And I do further declare, that I have discovered that the addition of lime or lime-stone, or other substances consisting chiefly of lime, and free or nearly free from any ingredient known to be hurtful to the quality of iron, will sufficiently prevent or remedy that quality in iron, from which the iron is called cold short, and will render such iron more tough when cold. And I do for this purpose, if the iron, howsoever and from whatever substance the same may have been obtained, be expected to prove cold short, add a portion of lime or lime-stone, or of the other said substances of which the quantity must be regulated by the quality of the iron to be operated upon, and by the quality of the iron wished to be produced.

And further, that the said lime or lime-stone, or other aforesaid substances, may be added to the iron at any time subsequently to the reduction thereof in the blast-furnace, and prior to the iron becoming clotted or coming into nature, whether the same be added to the iron while it is in the refinery-furnace or in the puddling-furnace, or in both of them, or previous to the said iron being put into either of the said furnaces.

And further, that I do in preference add quick lime instead of lime-stone, or the said other substances, either of which, as to quantity, whensoever and howsoever so used, may be considerably varied to the iron in the refinery-furnace and in the puddling-furnace.

And I do further declare, that I do greatly prefer to mix or add in the refinery furnace about one-fourth to one-third, by weight, of the crude or pig-iron, which has been obtained from the slags or cinders, with three-fourths or two-thirds of the crude or pig-iron which has been obtained from the iron-stones.

And I do further declare, that for the operation in the refinery-

Sir Samuel Romilly, Mr. Bell, and Mr. Phillimore, supported the motion for dissolving the injunction, and *Mr. Trower, Mr. Wetherell, and Mr. Raithby*, on behalf of the plaintiff, opposed the motion.

On the part of the plaintiff it was contended, that the patent was strictly confined to the making of malleable, or bar-iron, and that it consisted in smelting the cinder, or slag, of iron-works (obtained from the refinery, and from the puddling-furnace, and from the hammers and rollers), combined with "mine-rubbish;" and that the invention was confined to the so using such slag, or cinder, that by the mixing mine-rubbish it would not contain more than forty per cent. of iron; and that the specification did not claim the use of lime generally, but only the use of lime to prevent cold short in iron produced from slag.

On the part of the defendants it was argued, that the patent was void from the obscurity and inconsistency of the specification; that the means practised by the defendants were not to be found in the specification; that the use of slags for making iron was not new, as was shown by the evidence, and that lime had been used before, after the blast-furnace; that the restricted construction now attempted to be put on the specification would not hold good.

The *Lord Chancellor* said, I doubt whether the injunction ought to have been granted in the first instance, unless the affidavits had stated more particularly

furnace I do add the lime as it is obtained from the kiln in the proportion of from one sixtieth to one fortieth part, by weight, of the whole weight of the crude or pig-iron intended to be worked in the furnace. And I apply about one-half of the said lime, together with the crude or pig-iron, as it is thrown upon the refinery fire, and the remainder from time to time during the course of the refinery operation, taking care not to suffer the slag or cinder which is produced to get too thick, nor to endanger the stopping up of the furnace.

And I do also declare, that in the puddling-furnace I further add lime, in the proportion of from one hundredth to one eightieth part, by weight, of the whole weight of the iron in the furnace; which lime I previously slake and wet, to prevent it being carried off by the draft of the furnace. And I do apply the same in the course of that part of the operation which is known to workmen by the term drying the iron. And, moreover, I take care that the same shall be intimately mixed with, and minutely dispersed through, the iron by the usual operations of puddling.—In witness whereof, &c.

A. HILL.

in what the alleged infringement of the patent consisted; and that it should have been shewn to be, by working in the precise proportions mentioned in the specification, as being of the essence of the invention. When in future an injunction is applied for *ex parte*, on the ground of violation of a right secured by patent, it must be understood, that it is incumbent on the party making the application to swear (at the time of making it) as to his belief, that he is the original inventor; for although when he obtained his patent he might very honestly have sworn as to his belief of such being the fact, yet circumstances may have subsequently intervened, or information been communicated, sufficient to convince him that it was not his own original invention, and that he was under a mistake when he made his previous declaration to that effect.

The principle upon which the Court acts in cases of this description is the following:—Where a patent has been granted, and an exclusive possession of some duration under it, the Court will interpose its injunction, without putting the party previously to establish the validity of his patent by an action at law. But where the patent is but of yesterday, and, upon an application being made for an injunction, it is endeavoured to be shewn, in opposition to it, that there is no good specification, or otherwise that the patent ought not to have been granted, the Court will not, from its own notions respecting the matter in dispute, act upon the presumed validity or invalidity of the patent, without the right having been ascertained by a previous trial; but will send the patentee to law, and oblige him to establish the validity of his patent in a court of law, before it will grant him the benefit of an injunction.

injunction will be granted to patentee the exclusive right for some duration: but in the case of local patents, which are subject to invalidity, as made by the Council of Experts, will not act except under an action at law to establish the patent or otherwise

In the present case, I shall say nothing as to my opinion of the validity or invalidity of the patent. The affidavits in support of the injunction represent, that the defendants have made iron in the way mentioned in the specification. But, whether it is to be considered as a patent for extracting iron from slags, or cinders, by working and smelting, and by the admixture of certain materials, to reduce the per centage to forty per cent.; or for mixing cinders, limestone, and mine-rubbish, in certain proportions; it should, before any injunction was granted, have been pointed out that the patent was actually infringed by so mixing the ingredients, or so

reducing the per centage. Here, I cannot but entertain a doubt, whether the improvement as to the lime destroying the cold short is, or is not, a new invention; but that is not for me to decide. And, if on the trial of an action the witnesses should prove the use of lime for the same purpose, previously to the grant of this patent, still another question will remain, admitting that a patent may be good, for a mere method of producing a more beneficial and effectual result from the adhibition of the same materials.

But it is enough, in the present case, to resort to the principle already laid down, and which is the same that governed the cases (which have been cited) of *Harmer v. Playne*,* and *Boulton v. Bull*;† because it cannot be said, that there has been, in this case, such a possession or enjoyment under the patent, as would induce the Court to continue the injunction, upon such evidence as is here afforded, until its validity has been tried at law. Here the patent bears date, July, 1814, and the specification, January, 1815; and it appears by the affidavits, that the works were not completed so as to carry on the operations under the patent until July, 1816.

His Lordship dissolved the injunction; but directed that an account should be kept of slags used and iron made by the defendants, according to the method described in the specification, the plaintiff undertaking to bring an action, with liberty to apply to have the injunction revived, after trial of the action, or in case of any unreasonable delay being interposed on the part of the defendants.

HILL v. THOMPSON AND FORMAN.

In the Court of Common Pleas.—After Michaelmas Term, 1817.

Mr. Sergeant Best and *Mr. Sergeant Copley* were for the plaintiff, and *Mr. Sergeant Lens*, *Mr. Sergeant Vaughan*, and *Mr. Sergeant Pell* for the defendants.

This was an action brought by direction of the Court of Chancery to try the validity of the plaintiff's patent, and also whether the defendants had committed any infringement.‡

* *Ante*, p. 246.

† *Ante*, p. 155.

‡ For specification and proceedings in Chancery, see page 369, *ante*.

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It was stated on behalf of the plaintiff, that previous to the date of the patent the iron manufacturers, although in the constant practice of making large quantities of slags, or cinders, they were thrown away; now they collected them as a valuable matter, to be smelted into pig-iron by the aid of fuel and mine-rubbish. Witnesses were called, who spoke of the novelty of the invention, its utility, and the great extent to which the invention had come into use; and in order to prove the infringement of the patent, the defendant's son, Mr. Forman, jun., was called, who stated, that he superintended the works of the defendants; he stated, that he had seen the specification of the plaintiff's patent; that he had seen iron made according thereto; that the specification was sufficient to enable him to work the invention. Since the patent the defendants preserved the slags and cinders and mixed them with mine-rubbish, and produced pig-iron therefrom; and in a subsequent process they employed lime to prevent "cold short;" they use the lime in the refinery, but none in the puddling-furnace. When using cinder and slags in the making of iron, they charged the furnace with one-eighth of cinder, and seven-eighths of iron-stone. That they did not use the proportions; that the proportions were not essential; that the defendants had used the cinder and slags in the puddling-furnaces for years before the patent; that in some cases they had not used mine-rubbish in the blast-furnace, and they had succeeded just as well without as with mine-rubbish; that the material called clunch embraced all the properties of mine-rubbish.

It was contended on behalf of the defendants, that the specification was uncertain, and that the patent was void for the want of novelty; that the evidence would show, that many persons had extensively used the slags and cinder of iron-works for making iron from, and that lime had been used in processes after the blast-furnace.

The witnesses for the defendants proved, that Mr. Wilkinson, of the Bradley Iron-works, in Staffordshire, had, for forty years and upwards, used the cinders and slags in the blast-furnace; and that he was in the habit of collecting all the slags and mine-rubbish he could purchase, and applying them to make iron; that coke, mine-rubbish, Lancashire and Cumberland ore, lime-stone, and puck-stone, are called clunch, being the substance which

lies above the iron-stone, were used by him in making iron from cinders and slags. It was also proved that, at the iron-works at Brierley, in Staffordshire, slags and cinder, with mine-rubbish, had been used.

It was also shown by other witnesses, that, in 1788, cinders and slags, with coke, iron-stone, and lime, with the substance called poor robin, which is similar to mine-rubbish, were used in making iron in the blast-furnace.

Other witnesses proved that cinders from the refinery were, in 1792, used in, mixed with poor robin, together with coke. Lime and iron-stone were used.

Another witness spoke to the using the cinders with iron-stone, lime, and coke, in the blast-furnace in 1803, at the Milford Works, Staffordshire; and that the quality of cold short in such iron had been corrected by him by the use of lime in the puddling-furnace.

In reply for the plaintiff it was argued that, although experiments had been made by others, no practically useful result had been obtained till the plaintiff's patent, which pointed out peculiar combinations of the matters, which it was necessary to observe, or no beneficial using of cinders or slags could be obtained; that the defendants had used those proportions, and had infringed the patent. No witness had proved the previous use of those combinations, and therefore the patent was for a new invention, and valid.

His *Lordship* left it to the jury to say, whether the plaintiff had made out the novelty of the invention, or improvements, for which the patent had been taken out, viz., to convert slags into good bar-iron, and to prevent "cold short" by the application of lime; and whether the defendants had infringed the patent.

The Jury found a verdict for the plaintiff.

HILL v. THOMPSON AND FORMAN.

In the Court of Chancery.—December 15, 1817.

A verdict of a Jury having been obtained in favour of the plaintiff in this case, application was now made to the Court to renew the injunction which had been dissolved in April, pending the action which was directed to be brought. Similar arguments were used in support

of, and against the validity of the patent, as were employed on the motion to dissolve the injunction. And it was contended, on the part of the defendants, that the verdict of the Jury was not final; that the question was one of law on the construction of the specification; that the Jury had been induced to give a verdict on the arguments used by the learned counsel for the plaintiff; that the specification only claimed the use of slags and mine-rubbish so as to bring the combined matters to such a condition as not to contain more than forty per cent. of iron; this construction could not be supported at law; and that the question must stand over to see whether a new trial would be granted, and whether the Court would support the limited construction attempted to be put on the patent.

The Lord Chancellor.—In this case the injunction was first granted upon the strength of affidavits, which were contradicted as to their general effect, in the most material points, when it afterwards came before the Court upon a motion to dissolve the injunction so obtained. Many topics were then urged on both sides, and fully discussed in argument. It was insisted on the part of the plaintiff, and the Court agreed to that position, that where a person has obtained a patent, and had an exclusive enjoyment under it, the Court will give so much credit to his apparent right, as to interpose immediately by injunction to restrain the invasion of it, and continue that interposition until the apparent right has been displaced. On the other hand it was, with equal truth, stated, that if a person takes out a patent, as for an invention, and is unable to support it, except upon the ground of some alleged improvement in the mode of applying that which was previously in use, and it so becomes a serious question both in point of law and of fact, whether the patent is not altogether invalid, then upon an application to this Court for what may be called the extra relief which it affords on a clear *prima facie* case, the Court will use its discretion; and if it sees sufficient ground of doubt, will either dissolve the injunction absolutely, or direct an issue, or direct the party applying to bring his action; after the trial of which, either he may apply to revive, if successful, or else the other party may come before the Court, and say, I have displaced all his pretensions, and am entitled to have my costs and the expenses I have sustained, by being brought

*See side note
ms. p. 374*

*If a patent cannot
be supported at law
except as a alleged
improvement on an
old application, this is a
case of Equity
in which the Court
will be called upon
to give the extra
relief which it affords
on a clear prima
facie case, the Court
will use its discretion;
and if it sees
sufficient ground of
doubt, will either
dissolve the injunction
absolutely, or direct
an issue, or direct
the party applying
to bring his action;
after the trial of
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have my costs and
the expenses I
have sustained,
by being brought
before the Court.*

Spoken back of
larger in its scope
the invention
of just limits of
being entire not
thorough secured.

Speech ought to
define clearly the
real extent of inven-
tion as made.
Patent for machine
if in the spoken
if machine itself
to be not new

Now, it is contended, that what is claimed by the present patent is not a novel invention; that the extraction of iron from slags, or cinders, was previously known and practised; that the use of lime in obstructing cold short, was likewise known. But to all this it is answered, that the patent is not for the invention of these things, but for such an application of them as is described in the specification. Now, the utility of the discovery, the intelligibility of the description, &c., are all of them matters of fact proper for a jury. But, whether or not

the patent is defective in attempting to cover too much is a question of law, and as such, to be considered in all ways that it is convenient for the purposes of justice that it should be considered. This specification generally describes the patent to be "for improvements in the smelting and working of iron;" and it then goes on to describe the particulars in which the alleged improvements consist, describing various proportions in the combination of the materials, and various processes in the adhibition of them. The question of law upon the whole matter, is, whether this is a specification by which the patentee claims the benefit of the actual discovery of lime as a preventative of cold short, or whether he claims no more than the invention of that precise combination, and those peculiar processes, which are described in the specification. And when I see that this question clearly arises, the only other question which remains is, whether I can be so well satisfied with respect to it, as to take it for granted, that no argument can prevail upon a court of law, to let that first question be re-considered, by granting the motion for a new trial. If this be a question of law, I can have no right whatever to take its decision out of the jurisdiction of a court of law, unless I am convinced that a court of law must and will consider the verdict of the Jury as final and conclusive. But this only brings it back to the original question; and I see enough of difficulty and uncertainty in the specification, and enough of apparent repugnance between the specification and the patent itself, to say, that it is impossible I can arrive at such a conclusion respecting it, as to be satisfied that there is no ground for granting a new trial.

In the order formerly pronounced, was contained a direction, that the defendants should keep an account of iron produced by their working in the manner described in the injunction. If the injunction is to be now revived, the whole of their establishment must be discharged between this and the fourth day of next term, when it is intended to move for a new trial, the result of which may be, that the defendants have a right to continue the works; to do which, they will then be under the necessity of re-commencing all their operations and making all their preparations and arrangements *de novo*. It appears to me that this would be a much greater inconvenience than any that can result from a refusal in the present

instance to revive the injunction. My opinion, therefore, is, that this matter must stand over until the fifth day of next term, when I may be informed of the result of the intended application for a new trial; the account to be taken in the meantime as before.

HILL v. THOMPSON AND FORMAN.

In the Court of Common Pleas.—Hilary Term, 1818.

Mr. Sergeant Lens applied for, and obtained, a rule *nisi* that the verdict for the plaintiff in this case might be set aside and a nonsuit entered, or a new trial granted, on the grounds that the specification claimed more than was new; that it had been shown at the trial, that lime had before been used when re-melting iron, and therefore cold short must have been prevented by that material before the date of the patent; and that the verdict of the Jury was against evidence. The fact of the use of lime for such purposes was to be found in Aikin's Chemical Dictionary, where it is stated, that "cast-iron, which by the common treatment would yield cold short bars, may be made to afford soft malleable iron by fusing it with a mixture of equal parts of lime and scorizæ." In addition to which, it was proved by witnesses, that lime was used in the manner described in the specification at the Ketley Works, and Wilkinson's Works, long before the patent; that it was also shown at the trial, that slags and mine-rubbish had been used before the date of the patent for making iron.

The Court granted the rule on the ground, whether this was substantially a patent taken out for a discovery, or for an improvement. Their Lordships considered there was sufficient matter before them to discuss the whole question, and that Dr. Aikin's work should be considered as having been made use of at the trial, although not formally put in as evidence, each party having referred to it.

HILL v. THOMPSON AND FORMAN.

Easter Term, 1818.

Mr. Sergeant Best and *Mr. Sergeant Copley* showed cause against the rule obtained last term.

Mr. Sergeant Lens, Mr. Sergeant Vaughan, and Mr. Sergeant Pell supported the rule.

In support of the rule it was contended, that the patent was bad; it claimed the use of slags with mine-rubbish in the making of iron, which was not new; and, that the specification did not, as was contended for on behalf of the plaintiff, restrict itself to the invention of the improvement brought about by the use of certain proportions of these matters. The specification also claimed the use generally of lime to prevent cold short in any and every process after the blast-furnace; this was not new, as was shown by the evidence, and by Aikin's dictionary. This part of the patent could not be supported, on the ground, that the patent only claimed the use of lime to iron made from slags, which was now contended for. No one could read this part of the specification without being satisfied that it claimed to have discovered generally the use of lime to prevent cold short, whether the iron was made from slags or from iron-stone.

On behalf of the patentee it was contended, that the object of the patent was to produce good bar-iron from slags; and that by a combination of processes never before employed for the purpose. The plaintiff had two difficulties to overcome in the use of slags: first, the large proportion of iron it contained; to remedy this, he applied a certain proportion of mine-rubbish, thus producing and working with a new compound, which might be used without injury to the furnaces; and, secondly, in order to correct the cold short which was common to iron so made, the patentee used lime, according to particular processes pointed out in the specification.* The learned counsel also contended, that the adverse evidence at the trial did not go far enough, it did not show that the quantities of slags and mine-rubbish described under the patent had been used before the patent without following such relation of quantities; no practically useful result could be obtained; all that had been proved were experiments failing of success for want of the knowledge

* Had the patentee, in his specification, defined the two parts of his invention in this manner, the patent would in all probability have been supported. In similar cases, under the present state of the law, the patentees might, even after an adverse judgment of the Court, enter a disclaimer, and set up the new and useful part of the patent.—*Morgan v. Seaward*, Post. W. C.

contained in the specification. With respect to the use of lime to prevent cold short, the evidence only showed its use to other iron than that made from slags, no evidence being given to show that iron made from slags had been so treated.

Mr. Justice Dallas delivered the judgment of the Court as follows:—In this case, it will not be necessary to state the patent at large with the specification, or the pleadings in the cause, as those have been fully adverted to at the bar, in the course of the argument on each side, and it will therefore be sufficient to refer to them generally as I proceed. The declaration in substance, charges an infringement of the patent, and the Jury have found for the plaintiff; the finding involves, first, that the patent is valid, subject to every legal consideration in this respect; and, secondly, that the defendants have worked according to the specification, and thereby infringed the plaintiff's right; the last point, if properly found, leads to the other consideration, viz., the validity of the patent; but if it ought not to have been so found, then the validity becomes immaterial; for whether the patent be valid or not, signifies nothing in this particular case, if the defendants have not worked according to the specification. To prove the infringement of the patent, one witness only was called; this part of the case therefore depends entirely upon his testimony; and before adverting to the evidence in question, it will be necessary to look at the patent, as far as it relates to this part of the subject. It has not been contended that it is a patent introducing into use any one of the articles mentioned therein, as singly and separately taken; nor could it be so contended, for the patent itself shews the contrary, and if it had been a patent of such a description, it would have been impossible to support it, for slags, as well as minc-rubbish and lime, had undoubtedly been made use of, before it was passed. But it is said, it is a patent for combinations and proportions, producing an effect altogether new, by a mode and process, or series of processes, unknown before; or, to adopt the language made use of at the bar, it is a patent for a combination of processes altogether new, leading to one end; and this being the nature of the alleged discovery, any use made of any of the ingredients singly, or used in partial combination, omitting some and making use of all or some, in propor-

tions essentially different, and yet producing a result equally, if not more beneficial, will constitute no infringement of the patent. It is scarcely necessary here to observe, that a slight departure from the specification for the purpose of evasion only, would, of course, be a fraud upon the patent, and therefore the question will be, whether the mode of working by the defendants, has, or has not, been essentially or substantially different. For this we must look to the evidence of Foreman, and he being the single witness, by his testimony alone this part of the case must stand or fall. It may be difficult entirely to reconcile the different parts of his evidence with each other, if his answers to the several questions put to him be taken separately and detached; but looking to the result it seems to be clear. On the part of the plaintiff, in his examination in chief, he proved, that before the patent was taken out, the defendants were not in the habit of making use of slags, and that his attention being called to the subject by the patentee in the first instance, and then by the patent itself, he had since uniformly used them, as well as at times, mine-rubbish and lime; and he admitted that the latter ingredient was made use of to prevent the "cold short," which he also allowed was, and is, thereby prevented; so far, therefore, he proved a separate use and occasional combination. He was next asked, as to the proportions mentioned in the patent, whether he applied the lime in the proportions mentioned in the specification; and his answer was a direct negative. He was then asked, whether he had worked according to the specification; and he answered he had not. He then explained in what respects the defendants departed from it. On his cross-examination he said, the proportions used by them were very materially different, and that the proportions in the patent were not essential; that it would make no difference from being restrained from these proportions; and that the result would be better obtained by materially departing from them, indeed, by almost losing sight of them altogether; and with respect to slags, on re-consideration, he stated, that the defendants had used slags before the patent in the puddling-furnace, for months together. As to mine-rubbish, he said, they varied the proportion, and found, by experience, that the use of it was best, without reference to the proportions and restrictions pointed out in the specification, and when

omitted altogether, the result was best. It is true, he afterwards stated, that this was done when he was absent from home, and that on his return he ordered the mine-rubbish to be restored; and in this respect, and going to this single point, there appears to be an inconsistency: but still as the case stands on his single evidence, taken alone, if, in substance and result, it proves a mode of working essentially different from the specification, the foundation of the plaintiff's case is altogether gone, and his patent is void. And the rule is, in this respect, strict, as stated by *Mr. Justice Buller*, in the case of *Turner v. Winter*,* in which that Learned Judge expressed himself in these words:—"Wherever the patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must show in what his invention consists, and that he produced the effect proposed by the patent in the manner specified."

And in another part of the same case, he observed, "that slight defects in the specification would be sufficient to vacate the patent;" and, speaking of degree and proportion, his remark, as applied to fusion, mentioned in that patent, is applicable, viz., "As to fusion, it was said, that the public were directed, in the words of the specification, to continue the heat till the effect was produced, which must necessarily lead to fusion, though fusion was not expressly mentioned; but that that was no answer to the objection, for the specification should have shown by what degree of heat the effect was to be produced." *Slight defect in spec (in material part) fatal*

And I might conclude by saying, that in this case, as in a great variety of others, numerous instances may be found to show the strictness of the law as bearing upon this point, viz., either of omission, or of superfluous addition in the specification, or of uncertainty or insufficiency in quantities proposed, is not to be departed from. But further, the evidence here being so applied, does not confine itself to this point only, for it disproves also utility, as far as depends on combination and proportion, leading and conducing to a specific result. Neither can it be justly said, that having made use, in the instance in question, of the separate ingredients, or some of them partially combined, is a use made of the invention in part, so as to support the limits adapted to such partial use, because, as it has been already observed, and will more

Proportion of degree should be accurately stated

Law strict and found on a defect in addition in spec

* *Ante*, p. 105.

particularly be adverted to hereafter, each of the ingredients had before been separately made use of, and, more or less, in partial combination, and for this specific purpose. On the whole, our opinion is, as to this part of the case, that, considering the evidence of Mr. Forman, in its substance and result, and with reference to the peculiar nature of the patent, the infringement is not thereby proved. And here I might stop; but, from consideration of the parties, it may be proper to proceed to the next point on which the rule was obtained, as a ground for nonsuit, namely, that the invention claimed is not new; and this, like every other patent, must undoubtedly stand on the ground of improvement or discovery; if of improvement, still of improvement; if of discovery, for something altogether new; and the patent must distinguish and adapt itself accordingly. If taken out for discovery, when it is merely addition or improvement, it is scarcely necessary to observe, it will be altogether void: and of which description this patent is, it will be sufficient to say, novelty and discovery are the grounds on which it must stand, which, if known and made use of before, the patent is at an end. Now, with reference to this particular case, it may be proper shortly to consider what novelty and discovery are deemed to be; and when I say novelty and discovery, I mean to distinguish between those terms; for it is not enough to have discovered what was unknown to others before, if the discovery be confined to the knowledge of the party having made it, but it must have been communicated more or less, or it must have been more or less made use of, so as to constitute discovery as applied to subjects of this sort. The case of *Dollond** has been mentioned at the bar, and *Tennant's* patent† for bleaching liquor, and they stand so contrasted as to illustrate the distinction to which I allude. In *Dollond's* case, the question was, who was the true inventor within the meaning of the statute? Hall had made the discovery in his closet, but had never made it public, and on this ground *Dollond's* patent was confirmed. In *Tennant's* case, the great utility of the invention was proved, and the general ignorance of the bleachers of such use, till after the date of the patent. But, on the other side, a bleacher near Nottingham deposed, that he had used the same means of

now patent must
stand upon inquiry as
to discovery. It must
not define in what
way in each case

* *Ante*, p. 28.

Ante, p. 177.

preparing his bleaching liquor for six years anterior to the date of the patent; but he also stated, that he had kept his method a secret from all but his two partners, and his two servants concerned in preparing it; and in addition to this, a conversation was proved with a person, which went to the improvement in question. Under these circumstances, Tennant was deemed not to be the inventor, and a nonsuit took place.* So in the case of *Arkwright's* patent,† with respect to a particular roller, part of the machinery, the evidence was, that Arkwright had been told of it by one Kay; that being satisfied of its value, he took Kay as a servant, kept him for two years, employed him to make models, and afterwards claiming it as an invention, made it the foundation of a patent. The same fact was proved as to a crank, which had been discovered by a person of the name of Hargrave, which had also been adopted by Arkwright, although made use of, in a degree, by a few: a general ignorance, with respect to this, was proved by a great number of persons in the trade; and *Mr. Justice Buller* there stated, that "The witnesses never having heard of them, (that is, the improvements,) may be perfectly true, and yet no contradiction to the evidence for the prosecution." The close application of these decisions to the present case will appear as I proceed further; at present I will only ask, looking at the subject in question in this light, is the plaintiff to be considered as the inventor, be it improvement claimed, or be it altogether discovery? And this leads to the evidence in this respect.

On the part of the plaintiff, several witnesses were examined, on whose testimony it will be sufficient generally to observe: they proved, that of whatever description that for which the patent was taken out may be deemed, it was, in substance, altogether new to them. One witness, in particular, was entitled to have the greatest weight given to his testimony; I mean *Mr. Mushett*. He had himself published a work on the subject of iron, which

* *Ante*, p. 53.

† In *Tennant's* case, as reported, p. 177, *ante*, it does not appear whether the Judge nonsuited the plaintiff on the grounds of want of novelty in the invention, which had been used in *secret* at Nottingham, or whether the nonsuit was because the whole of the invention was communicated to *Mr. Tennant*, and not invented by him. In *Carpenter v. Smith*, *post*, it was held that public use was in contradistinction to secret use.—W. C.

had been translated into the different languages of Europe. He had studied the subject as matter of chemistry and science; his work was received everywhere as a standard authority; and, further, he was a person of the greatest and most extensive practical experience. His account of the patent in question was, that it was a combination of processes known before separately, but in combination new, and producing a beneficial result. So far the case appears, upon the part of the plaintiff, to be strongly proved. But first, it is to be observed, that the evidence, be its strength what it may, is merely negative. The ignorance of the particular witnesses to which I allude may be perfectly true, consistently with a perfect knowledge by others of the existence of those materials separately, or in combination, and in a degree more or less extensive; and here Tennant's, Dollond's, and Arkwright's cases apply, being in this respect, and to this point, precisely similar.

But let us next look to the articles which constitute the substance, and the mode directed to be made use of in the discovery claimed. Taken as separate ingredients, I will only generally say, that of slags or cinders, of mine-rubbish or clunch, of lime in various ways, and generally considered as connected with the working of iron, not only knowledge, but extensive use has been proved, and this by a great number of witnesses, the evidence being all on one side; that is, positive testimony against negative testimony, leaving a result of perfect consistency. I come next to combination and proportions. But, first, as to utility. If Forman's evidence is to guide us (and by his testimony the plaintiff must succeed or fail); as to working by the specification, he not only proves proportions departed from, but combination varied, and a more beneficial result produced; and yet, as to combination or proportion, if these may be materially departed from, where is the line to be drawn, and what is there beyond general combination in a patent which professes to be for precise and specific appportionment and application? And it will be recollected, that with a little change of ground, as urgency required, the case has been so represented and so argued at the bar. Thus much of slags and mine-rubbish. I have already spoken, in part, of lime; but of this, though not the sole, yet as it seems to be the most material

object, it will be necessary now to speak more fully. First, then, consider the end to be attained; and, next, the proposed means of attaining it. The purpose for which it is intended to be applied, is to render bar-iron more tough, by preventing that brittleness, which is called "cold short," which renders bar-iron less valuable; and the means of prevention stated are the application of lime. In what way, then, is lime mentioned in the patent? The first part of the specification, in terms, alleges certain improvements in the smelting and working of iron during the operations of the blast furnace; and then, introducing the mention of lime, it states, that the application of it to iron, subsequently to the operation of the blast furnace, will prevent the quality called "cold short." So far, therefore, the application of lime is, in terms, claimed as an improvement, but an improvement invented, as of course it must be; and nothing is said of any previous use, of which the use proposed is averred to be an improvement; being, therefore, in substance, a claim of entire and original discovery. The recital should have been, supposing a previous use to be proved in the case, that "whereas lime had been in part, but improperly, made use of," and so suggesting a different mode of application and use, as the improvement claimed. But the whole of the patent must be taken together, and this objection will appear to be stronger as I proceed. And here again, looking through the patent in a subsequent part of it, the discovery first occurs, and I will state the terms made use of in this respect. "And I do further declare, that I have discovered that the addition of lime will prevent that quality in iron from which the iron is called 'cold short,' and will render such iron more tough when cold; and that for this purpose I do add a proportion of lime, or limestone, to be regulated by the quantity of iron to be operated upon, and by the quality of the iron to be produced, to be added at any time subsequently to the reduction in the blast furnace, and this from whatever substance the iron may be produced, if expected to prove 'cold short.'"

*When patent is
only for new
use, it should be
so recited*

Now this appears to be nothing short of a claim of discovery, in the most extensive and unlimited sense, of the effect of lime applied to iron to prevent brittleness, not qualified and restrained by what follows as to the preferable mode of applying it under various circumstances, and, therefore, rendering the patent void if lime

had been made use of for the purpose before, subject to the qualification of applying it subsequently to the operations in the blast furnace. How, then, is the evidence in this respect? And, first, as to the work so often referred to, if in substance it informs the public of what the specification in the patent professes to do, this will undoubtedly be the first discovery; as in Arkwright's case, it was agreed, that a book produced, printed and published previous to the patent, constituted the discovery so as to negative invention by the patentee. One passage it will be sufficient to read. "Rinman says, that cast-iron, which, by the common treatment, would yield cold short bar, may be made to afford soft malleable iron, by fusing it with equal parts of lime and scorïæ;" of scorïæ, I need not say, they are produced by the operation of the blast furnace, and lime is proposed in combination with them. Here, then, is "cold short" stated to be prevented by the application of lime subsequently to the operation of the blast furnace; and, in this view of the subject, nothing turns upon precise proportion, being a claim of discovery generally. This book was published in England in 1807, and the plaintiff's patent taken out in 1816: in effect, therefore, this completely negatives the novelty of the alleged discovery. But look to the other evidence of actual previous use in various instances in this country. I will shortly state part of it only, the whole being consistent in this respect:—One of the witnesses, Northall, was asked the question, going back many years before the patent, "Did you know how to prevent the quality of 'cold short' in the iron produced from the cinder?" His answer was, "By the application of lime in the puddling-furnace." Now, the puddling-furnace is one of those stages in which, by the express words of the specification, the lime for this purpose is to be applied; but this, he added, he heard from one person only: and therefore this, if it stood singly, might be considered as slight proof. Nor will I stop to inquire whether it be true, whether alone it would or would not be sufficient, according to the cases which have been decided. But let us next see, what further knowledge, and beyond this, what use is proved, not only in one, but in many instances, and by the different witnesses called on, by observing, before I quit the evidence of this witness, that this question appears to have been put to him by one of the jury: "You say that you knew that

using lime would prevent the 'cold short?' Can you tell us how it ought to be used?" And the answer was, "In the puddling-furnace." There is much other evidence to the same effect; but to that of Mr. Robinson, I will content myself with merely referring. He produced a journal of entries, years before the patent was taken out, in which were noted, at the time they were made, the applications of lime both in the puddling and refinery furnaces, for the express purpose of preventing the "cold short," and this by a continued use, from 1808 up to 1816, when the works which he superintended stopped, that is, for a period of eight years anterior to the patent. The application, therefore, of lime in some way, for the purpose proposed, instead of being a secret unknown before, was as public as it could be rendered by a work of extensive circulation. In every view of the subject, therefore, this claim had been more or less in actual use in this country, so that the present patent would, in effect, operate as an abrogation of vested and existing rights. I am now upon the subject of lime, generally applied, claimed as a discovery, without reference to specific apportionment, except as before mentioned. On this part of the case I will only further remark, that if any part of the alleged discovery, being a material part, fail, the discovery, in its entirety, forming one entire consideration, the patent is altogether void, and to this point, which is so clear, it is unnecessary to cite cases. Supposing, therefore, the patent good, if slags and lime had separately or jointly formed the only consideration, still, as combined here, it is bad with respect to lime, it is equally so as to slags; and so the other way. In every view of the subject, therefore, the claim to invention and novelty fails, not only virtually and technically, as the patent and specification are framed, but in effect and substance, and in the broadest and most enlarged view of the subject. At the time of the trial, the utility of the alleged discovery being admitted, the fairness of the specification being established, and the publicity afforded by the patent, compared with the partial and previous limited use, making it, as it appeared to me, all but the benefit to the public of actual and original discovery, constituted a case so far favourable to the plaintiff; but looking to the strictness with which, on the point of discovery, patents must be construed, to what has been decided in cases of the nearest

Any material part of the alleged invention failing makes the whole patent void because in its entirety it forms one and the same consideration for the patent

analogy, and the peculiar nature of this case, under all its circumstances, we feel ourselves bound to decide against the originality of that which is claimed by the patentee as new. On both grounds, therefore;—first, that no infringement of the patent was proved at the trial; and, secondly, that the invention is not new;—we are of opinion that the plaintiff is not entitled to recover.

Rule absolute for a nonsuit.

THE KING v. METCALFE.

In the Court of King's Bench, 1817.

THIS was a writ of *scire facias* to repeal the patent granted to the defendant.*

* The specification was in the following words:—

“To all to whom these presents shall come.—I, Jacob Metcalfe, of Great Marylebone-street, in the county of Middlesex, Brush Manufacturer, send greeting.—Whereas his Most Excellent Majesty King George the Third, by his letters patent under the Great Seal of Great Britain, bearing date at Westminster the thirtieth day of September, in the fifty-sixth year of his reign, did, for himself, his heirs, and successors, give and grant unto me, the said Jacob Metcalfe, my executors, administrators, and assigns, his special license that I, the said Jacob Metcalfe, my executors, administrators, and assigns, or such others as I, the said Jacob Metcalfe, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time, and at all times during the term of years therein expressed, should, and lawfully might, make, use, exercise, and vend my invention, of ‘a tapered hair or head brush,’ within that part of the United Kingdom of Great Britain and Ireland called England, the dominion of Wales, and town of Berwick-upon-Tweed. In which said letters patent there is contained a proviso, obliging me, the said Jacob Metcalfe, by an instrument in writing, under my hand and seal, particularly to describe and ascertain the nature of my said invention, and in what manner the same is to be performed, and to cause the same to be enrolled in his Majesty’s high Court of Chancery within two calendar months next and immediately after the date of the said letters patent, as, in and by the same, reference being thereunto had, will more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said Jacob Metcalfe, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, is described and ascertained in the following explanation thereof; (that is to say), I take any wood, of the thickness of half an inch or three-eighths of an inch, or thereabouts, and bore it with a brush-bit, run in a lathe of any size, shape, or pattern; I then plane it smooth, which forms the stock of my brush; I then cut hair in lengths, about one inch and a-quarter long, which I mix with my hands by shaking it together as unevenly as possible; I then take brass-wire, which I double and

It was contended, on behalf of the Crown, that the patent was void, the specification not describing any mode of making a tapering brush, for which the patent was granted. Brushes, according to the specification, were to be made similar to ordinary brushes, but, in place of the bristles of each tuft being of the same length, they were to be of different lengths, so as to penetrate the hair. It was argued, that there being no taper brush produced under the patent, the public were misled by the grant; no one looking at the patent, the title of which was "a tapered hair or head brush," would imagine that there was to be no new shape of brush, but a mixing of bristles of different lengths in the bundles or tufts of which a brush was to be made.

On the part of the defendant (the patentee), it was said, that by compressing the tufts of which a brush was composed, they would be rendered taper, as they contained less bristles at their upper ends than at their lower ends.

Lord Ellenborough, C. J.—Tapering means, gradually converging to a point. According to the specification, the bristles would be of unequal length, but there would be no tapering to a point, which the title of the patent assumes. If the word tapering be used in its general sense, the description is defective; there is no converging to a point. If the term has had a different meaning annexed to it by the usage of trade, it may be received in its perverted sense.

Some to be used in perverted sense if so recognised in the

It was then attempted by evidence to show that it was known in the trade by that name; but

His Lordship directed the jury to find for the Crown, as it was not a tapering, but only an unequal brush.

Verdict for the Crown.

push through the hole at the back of the stock, which forms a loop, into which I put so much of the hair, so mixed as aforesaid, as will fill the hole of the stock, and draw it into such hole, and so proceed, hole by hole, till I have drawn the whole stock; I then press down with a piece of iron the wire at the back of the stock, and glue on the back of the stock a thin cover of wood; when dry, I proceed to complete my brush, according to my designed pattern, by sawing off, with a turning saw, all superfluous parts of the stock, and by shaving off with a spoke-shave, and scraping with a scraper, the rough and uneven parts of the stock, and smooth such stock by rubbing it with glass-paper.—In witness whereof, I, the said Jacob Metcalfe, have hereunto set my hand and seal the twenty-ninth day of November, in the year of our Lord one thousand eight hundred and sixteen.

"JACOB METCALFE."

THE KING v. WHEELER.

In the Court of King's Bench.—Hilary Term, 1819.

At the sittings after Michaelmas Term, at the trial of this case, the verdict was for the Crown. It was a writ of *scire facias* to repeal a patent granted to the defendant for his invention of "a new or improved method of drying and preparing malt."* The case was tried before Lord

* The specification was as follows :—

"To all to whom these presents shall come, &c.—I, Daniel Wheeler, of Hyde-street, in the parish of Saint George's, Bloomsbury, and county of Middlesex, Colouring-maker, send greeting:—Whereas his Most Excellent Majesty King George the Third, did by his letters patent under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the twenty-eighth day of March, in the fifty-seventh year of his reign, give and grant unto me, the said Daniel Wheeler, my executors, administrators, and assigns, that I, the said Daniel Wheeler, my executors, administrators, and assigns, should, and lawfully might, during the term of years therein mentioned, make, use, exercise, and vend, within England, Wales, and the town of Berwick-upon-Tweed, my invention of 'A new or improved method of Drying and Preparing Malt;' in which said letters patent there is contained a proviso, that if I, the said Daniel Wheeler, shall not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing, under my hand and seal, and cause the same to be enrolled in his Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever thereby granted, shall utterly cease, determine, and become void, as in and by the same relation being thereunto had may more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said Daniel Wheeler, do hereby declare that my said invention consists in the heating of malt to 400 degrees and upwards of Fahrenheit's thermometer, according to a process or processes hereafter described, and in so heating it that the greater part of the saccharine and amylaceous principles of the grain become changed into a substance resembling gum and extractive matter of a deep brown colour, readily soluble in hot or cold water. A small quantity of malt thus prepared will suffice for the purpose of colouring beer or porter, and may be used with advantage as a substitute for the colouring made of sugar, which was allowed by the Act of 51 Geo. III., cap. 87, and prohibited by the 56th Geo. III., cap. 58. The apparatus for preparing the malt may be variously constructed, provided they be made of such materials, and so formed as to be capable of allowing the grain to be sufficiently heated. I have found one convenient mode of applying the heat to be by means of a cylindrical iron machine or vessel, similar in its construction to that now commonly used with a revolving motion for roasting of coffee. During the progress this machine should be kept in motion, in order that the malt may be dispersed or made to change its

Chief Justice Abbott. His Lordship, at the trial, told the jury that the invention described in the specification was inconsistent with the patent, which proposed to improve the process of drying malt, and that the patent was therefore void.*

An application was now made on behalf of the defendant (the patentee) for a new trial, on the ground that his Lordship was in error, and that his objections were not sufficient.

position as often as possible, to prevent its agglutinating or adhering to the vessel or becoming carbonized; and with this view the vessel should be drawn out from the fire very frequently, either every minute, or at intervals of from one minute to five minutes, according to the intensity of the fire. When this treatment has been continued a proper time, the grain becomes very highly coloured, and in this state a given quantity of it, ground and digested in hot or cold water, will yield the deepest coloured solution. If the process be continued too long, the temperature be raised too high, or the grain be not sufficiently agitated, its colouring property will be diminished, and ultimately it will be converted into a coaly substance, insoluble in water, and of course yielding no colour. Another apparatus which may be used for this purpose consists of a hollow iron cylinder, open at both ends, made to revolve upon pivots or axes, and having within side it, from one end to the other, a screw-like channel. This cylinder is placed in a proper fire-place, and the grain being continually poured into one end of it, and the cylinder kept turning round, the grain is progressively carried forward by the action of the screw within it, and delivered at the other end heated to the proper degree, which may be regulated by the greater or lesser speed of the cylinder, and by the management of the fire. The process may also be performed on kilns, made nearly of the ordinary construction, under proper management, and by various other contrivances which need not be described, it being sufficient to specify the nature of the operation by which the object of the patent is obtained, without mentioning every possible manner of doing it. In regard to the time requisite to produce the proper effect upon the grain, it is obvious that it must be variable, depending upon the size of the apparatus, the quantity and quality of the malt, the perfectness of the operation, and particularly upon the heat employed. It being evident that a lower temperature will require a longer time than if an higher one were used, the lower heat will, however, effect the purpose with less danger of overheating or charring the grain than when a higher temperature is employed, which requires particular attention and management to prevent the grain from becoming converted into charcoal. The proper degree of heat and the time of exposure, will, however, be easily learnt by experience, the colour of the internal part of the prepared grain affording the best criterion.—In witness whereof, I, the said Daniel Wheeler, have hereunto set my hand and seal, this twenty-seventh day of September, in the year of our Lord one thousand eight hundred and seventeen.

"DANIEL WHEELER."

* On the agreement of the title and specification, see *Cochrane v. Smethurst*, p. 811, ante; *Sturtz v. De la Rue*; and *Cook v. Pearse*, post.

Lord Chief Justice Abbott gave the written judgment of the Court as follows:—We have taken time to consider of this case, not by reason of any doubt entertained upon the motion, but in order that the defendant, whose rights will probably be concluded by our judgment, might not be affected by any other than a deliberate and considered opinion. This was a *scire facias* to repeal a patent, granted to the defendant, for what is called in the patent “a new and improved method of drying and preparing malt.” The patent is granted under several conditions and provisos, as usual in such cases, and, amongst others, a proviso, that if the defendant shall not particularly describe and ascertain the nature of his invention, and in what manner the same is to be performed, by an instrument in writing under his hand and seal, to be enrolled in the high Court of Chancery within six calendar months, then the patent shall be void. Several issues were taken upon the record of the *scire facias*, one of which was upon the fact of the enrolment of such a writing (or specification, as it is commonly called) as is required by the proviso. The cause was tried before me, at the sittings after the last term, when, upon reading the patent and specification (for a specification had been, in fact, enrolled), it appeared to me that the proviso had not been complied with: and this question arising upon written instruments, and being, therefore, properly a question of law, I directed the jury to find a verdict for the Crown upon that issue, which was accordingly done. In the present term, a motion was made for a rule to show cause why the verdict should not be set aside, and a new trial granted; and upon this motion the defendant has a right to assume, for the present, that the novelty and utility of his invention might have been established by proof; and the question before the Court is precisely the same as that which I determined at *Nisi Prius*, and depends entirely upon the construction and effect of the written instruments, viz., the patent and specification. And upon this question, my brothers *Bayley* and *Holroyd* agree with me in thinking that our decision must be against the defendant. My brother *Best* having been engaged, when he was at the bar, in some of the earlier stages of this proceeding, has declined taking any part in our deliberations. The language in which the supposed invention is described, in a patent of this nature, is the language of the patentee

himself. He represents to the Crown, that he has invented this or that thing, and that he is the first and sole inventor thereof, &c.; and the Crown, yielding to his representation of it, and willing to give encouragements to all arts and inventions that may be for the public good, grants to the patentee the sole liberty and privilege of using his said invention, for a certain term, under the conditions before noticed. It is obvious, therefore, that if the patentee has not invented the matter or thing of which he represents himself to be the inventor, the consideration of the Royal grant fails, and the grant, consequently, becomes void. And this will not be the less true if it should happen that the patentee has invented some other matter or thing, of which, upon a due representation thereof, he might have been entitled to a grant of the exclusive use. It is well known that the granting of monopolies was restrained by the Statute of Monopolies, 21 Jac. I., c. 3, to the sole working or making of any manner of new manufacture, and to the true and first inventor of such manufactures. Now the word "manufacture" has been generally understood to denote either a thing made, which is useful for its own sake, and vendible as such, as a medicine, a stove, a telescope, and many others, or to mean an engine or instrument, or some part of an engine or instrument, to be employed either in the making of some previously known article or in some other useful purpose, as a stocking-frame, or a steam-engine for raising water from mines: or it may, perhaps, extend also to a new process, to be carried on by known implements, or elements acting upon known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better and more useful kind. But no merely philosophical or abstract principle can answer to the word "manufactures." Something of a corporeal and substantial nature, something that can be made by man from the matters subjected to his art and skill, or, at the least, some new mode of employing practically his art and skill, is requisite to satisfy this word. A person, therefore, who applies to the Crown for a patent, may represent himself to be the inventor of some new thing, or of some new engine or instrument. And, in the latter case, he may represent himself to be the inventor of a new method of accomplishing that object, which is to be

*Definition of
the word
"manufacture."*

accomplished by his new engine or instrument, as was the case of Watt's patent, in which he represented himself to be the inventor of a new method of lessening the consumption of steam and fuel in fire-engines, and, by his specification, he described certain parts to be used in the construction of fire-engines. Or, supposing a new process to be the lawful subject of a patent, he may represent himself to be the inventor of a new process, in which case, it should seem, that the word "method" may be properly used as synonymous with process. The language of the patent may be explained and reduced to certainty by the specification, but the patent must not represent the party to be the inventor of one thing, and the specification show him to be the inventor of another; because, perhaps, if he had represented himself as the inventor of that other, it might have been well known that the thing was of no use, or was in common use, and he might not have obtained a grant as the inventor of it.

Now to apply these general principles to the patent and specification before us. The defendant has represented himself to the Crown to be the inventor of "a new or improved method of drying and preparing malt." Malt was an article of common use before the granting of this patent, possessing qualities long and well known, and prepared or made by a process practised for many years, of which drying was one of the last stages. And it is, in our opinion, impossible to read this patent without supposing the patentee to claim the merit of having invented some new or improved method, either of process of preparing, or, at least, of drying this old and well known article. Then has the patentee, by his specification, shown himself to be the inventor of any method of drying or preparing this well known article. For this we are to look at the specification, and we there find that he claims to be the inventor, not of a method of drying or preparing this well known article, but of a method of giving to it, when previously prepared, some qualities which it did not possess before, or which it possessed only in a very slight degree; namely, the qualities of being soluble in water, and colouring the liquor in which it shall be dissolved, which latter is the object in view. And this is to be effected by a second and additional process, the application of a very high degree of heat.

*Little of patent and
not say nothing
of spec another*

We think this invention, mentioned in this specification, so entirely different from that mentioned in the patent, as that the latter (if any such there be) remains wholly undescribed and unspecified, and, consequently, that the issue could not be found for the defendant. It was contended that this process was, in fact, a preparation of malt to answer a particular purpose, and that the purpose need not be noticed in the grant. It may be true, in general, that the purpose need not be mentioned in the grant; but if, in any particular case, the mention of the purpose be necessary to explain the words previously used, to show that they were not used in their ordinary and obvious sense, but in a sense limited and confined to that particular purpose,—in such a case, we think, the purpose ought to be mentioned. In this case, if the patentee had represented himself to be the inventor of a method of preparing malt, for the purpose of colouring beer and porter, every person who read his representation would understand, that the malt, prepared according to his method, was not intended to answer the common and known purposes of that article, viz., the brewing of beer, but was intended only for the special and particular purpose of colouring the liquor, and to be used in addition to common malt. But, as we have before intimated, we think no person could conjecture that to be the object of the invention mentioned in this patent. This being our opinion, it is unnecessary to say, whether or not a patent for a new method of drying and preparing malt for the colouring of beer might be good as a patent for the manufacture, that is, for the malt so dried and prepared, if followed by a sufficient specification, which it probably might be, nor is it necessary to notice at any length the apparent defects in the specification accompanying the present patent. It was argued, that the term "malt" is applied to the grain as soon as it has germinated by the effect of moisture, and before it has been dried; that malt in that state might be taken and used for the objects of the defendant's invention; and that as these were to be accomplished by heat, his was an invention for drying malt. But if this were so, then the specification would be defective, in not informing the reader that the malt to be used for the intended object might or ought to be taken in that state, or after drying,

Purpose to which an invention is to be applied, ought to be mentioned in the title when the omission thereof is calculated to mislead

which, according to the common use of the word "malt," he might very reasonably suppose.

Again, this is a patent for the invention of a method, that is, of an engine, instrument, or organ, to be used for the accomplishment of some purpose, or, at least, of a process to be so used. The patentee does not profess to be the inventor of any engine, instrument, or organ. He says, that a coffee-roaster, or a kiln, or anything by which the grains may be kept in motion during their exposure to the requisite degree of heat, may be used. Neither has he described any certain or precise process, which, admitting that there may be a patent for a process only, ought unquestionably to be done. He does not mention the state in which the malt is to be taken, for the purpose of undergoing the process, whether in a moist or dry state, as was before noticed; he does not say what heat beyond 400° of Fahrenheit may be used; he does not furnish the operator with any means of knowing when he has this degree of heat; he does not say during what space of time the process is to be continued, but contents himself with saying, that "the proper degree of heat, and time of exposure, will be easily learned by experience, the colour of the internal part of the prepared grain affording the best criterion;" not even mentioning what the colour is, which is to be the criterion. A specification which casts upon the public the expense and labour of experiment and trial, is undoubtedly bad. If it be said, that all these matters will be well or easily known to a person of competent skill (and to such only the patentee will be allowed to address himself), then the inventor will not, in reality, have given any useful or valuable information to the public: so that, in either way of viewing the case, there is either no certain and clear process described, or the process described is such as might be practised without the assistance of the patentee.

For these reasons we think the direction at *Nisi Prius* was right, and, consequently, that no rule should be granted.

Rule refused.

FORSYTH v. RIVIERE.

In the Court of King's Bench.—June 4, 1819.

THIS was an action for infringement of the plaintiff's patent, bearing date the 11th day of April, 1807.* The

* The specification was as follows :—

"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said Alexander John Forsyth, do hereby declare, that the nature of my said invention, for 'A method of discharging or giving fire to artillery, and all other fire-arms, mines, chambers, cavities, and places in which gunpowder, or other combustible matter, is or may be put for the purpose of explosion,' is expressed in the foregoing general description thereof, and the manner in which the same is to be performed is as follows; that is to say: First, as to the chemical plan and principles thereof. Instead of permitting the touch-hole or vent of the pieces of artillery, fire-arms, mines, chambers, cavities, or places, to communicate with the open air; and instead of giving fire to the charge by a lighted match, or by flint and steel, or by any other matter in a state of actual combustion applied to a priming in an open pan, I do close the touch-hole or vent by means of a plug or sliding piece, or other fit piece of metal, or suitable material or materials, so as to exclude the open air, and to prevent any sensible escape of the blast or explosive gas or vapour outwards, or from the priming or charge, and as much as possible to force the said priming to go in the direction of the charge, and to set fire to the same, and not to be wasted in the open air. And, as a priming, I do make use of some or one of those chemical compounds which are so easily inflammable as to be capable of taking fire and exploding without any actual fire being applied thereto, and merely by a blow, or by any sudden or strong pressure or friction given or applied thereto without extraordinary violence; that is to say, I do make use of some one of the compounds of combustible matter, such as sulphur, or sulphur and charcoal, with an oxymuriatic salt; for example, the salt formed of dephlogisticated marine acid and potash (or potasse), which salt is otherwise called oxymuriate of potash; or I do make use of such of the fulminating metallic compounds as may be used with safety; for example, fulminating mercury, or of common gunpowder mixed in due quantity with any of the before-mentioned substances, or with an oxymuriatic salt as aforesaid, or of suitable mixtures of any of the before-mentioned compounds; and these compounds, or mixtures of compounds, I find to be much better for priming than gunpowder used alone, which cannot be made to explode without some sparks or actual fire applied thereto, or else without such a degree of extraordinary and violent percussion as cannot conveniently be made use of in gunnery, or with any of the fire-arms or artillery that are in most general use. But it is to be observed, that I do not lay claim to the invention of any of the said compounds or matters to be used for priming; my invention in regard thereto being confined to the use and application thereof to the purposes of artillery and firearms as aforesaid. And the manner of priming and exploding which I use, is to introduce into the touch-hole or vent, or into a small

patentee, it was proved, was not the first inventor, though he was the first publisher, or introducer, (the first in-

and strong chamber, or place between the said touch-hole and vent, and the plug or sliding-piece, or other piece by which the communication with the external air is cut off, a small portion of some or one of the chemical compounds herein before mentioned (for example, as for priming to a musket about the eighth part of a grain); and when the required discharge is to be made, I do cause the said chemical compound or priming to take fire and explode by giving a stroke, or sudden and strong pressure to the same, communicated by and through the said plug or sliding-piece, or other piece before mentioned or described, in consequence of which the fire of the priming is immediately communicated to the contents or charge placed within the said piece of artillery, fire-arm, mine, chamber, cavity, or place, and the discharge accordingly follows.

"And, secondly, I do hereby farther declare, for the better illustration of my said invention, and as auxiliary to the use thereof, in relation to the mechanical parts thereof, that I have hereunto annexed drawings or sketches, exhibiting several constructions which may be made and adopted in conformity to the foregoing plan and principles, out of an endless variety which the subject admits of.

"Fig. 1, represents the section of a piece of artillery, where the charge is inflamed upon the upper side.

"Fig. 2, represents the section of a piece of artillery, where the charge is inflamed at one of its ends through a touch-hole in the line of direction of the barrel or bore of the piece.

"Fig. 3, is a representation of the same thing as fig. 2, except that the narrow part of the touch-hole is lengthened more than in fig. 2.

"The same letters answer for the description of figs. 1, 2, and 3.

"In fig. 1, A, A, represents the section of a piece of artillery, a, the touch-hole, of a cylindrical bore, excepting at the bottom, where it becomes a small perforation, leading to the chamber. c, is a cylindrical punch or plug fitting the bore of a, and (if need be) clothed, packed, or faced near its upper part with leather or binding, or any other material proper to render its fitting more correct, and its motion easy and smooth. The lower part of c, is made to fit the lower part of the touch-hole, b, and there is a small internal cavity at the lower part of c, in which a portion of the said chemical compound may be lodged by dipping the said punch or plug therein; or a sufficient quantity of the said chemical compound is let fall into a, part of which lodges upon the shoulder at b, fig. 1, or in the-bottom of the bore at b, figs. 2 and 3, and in this state the said punch or plug, c, is to be inserted in the touch-hole; and a smart blow being given on its upper end, the said chemical compound being suddenly compressed between the two faces nearly in contact, will explode, and give fire to the remaining portion, and also to the charge. The apparatus, figs. 1, 2, and 3, is chiefly to be recommended for its simplicity, but it is attended with several obvious inconveniences.

"Fig. 4, represents the section of an apparatus which may be used to prime and discharge a musket, or any other fire-arm, a great number of times, even although the breech of the same is under water. A, A, represents a section of the barrel of the piece. D, the chamber of the

ventor having confined it to his closet, and the public being unacquainted with it). It was also shown, that the

barrel, which is contracted to a narrow touch-hole at *i*, and opened up to about double the diameter of the narrowmost part of the touch-hole at *s, b*. Into *s, b*, is introduced the rod or plug, *c, c, c*, at *b*, where the touch-hole is opened wider. There is another hole, *r*, of the same diameter as *s, b*; and at right angles to *s, b*, a cylindrical piece, of any proper metal, with a hole nearly through it, in the line of direction of the axis, passes through the solid breech of the barrel as near to *i*, and *b*, as can be done with safety and convenience. There is also another hole in one side of the cylinder at right angles to its axis, and corresponding with the hole, *r*, in the breech of the gun when the cylinder is fixed in its proper place; or, as the cylinder must be accurately fitted into the breech, and move round freely, this last-mentioned hole may stand either at *r*, or *x*. This first-mentioned hole in the cylinder, *e*, is filled with any of the chemical compounds before mentioned. When the piece is to be primed, the hole in the side of the cylinder, *e*, is brought directly over *r*, and the powder falls out of the cylinder through *r*, into the small cavity at *b*, between the point of the rod or plug *c, c, c*, and the contracted part of the touch-hole at *i*, where the piece is to be discharged. The side hole in the cylinder, *e*, is turned round to *x*, and the rod or plug, *c, c, c*, impelled forward by the stroke of a hammer or spiral spring as at *a, a, a*, or by any other mechanical contrivance, so that by its pressure or concussion against the shoulder at *i*, it fires the priming contained in the cavity at *b*. *h, h*, is a screw by which the power of the action of the spiral spring, *a, a, a*, may be increased or diminished as necessary.

“Figs. 5, and 6, represent another apparatus, which may be used in the same manner as the preceding. The inner circle, *s*, represents a section of a flat cylindrical piece, having a central stem on the opposite side or face to be screwed into the barrel where the touch-hole is commonly placed. (Another section of the cylinder, *s*, is given at fig. 7.) The axis or central line of the said stem is perforated or drilled up to half the thickness of the cylindrical piece, so as to meet another hole, *v, s*, drilled or made in the edge of the said piece. The space, *a, a*, between the inner and outer circles denotes another flat piece, of which the inner part is hollowed out so as very accurately to fit the outside of the first-mentioned cylindrical piece, and to be capable of revolving upon it when turned by the handle, *c*. At *e* is a plug or punch inserted in the hole in the edge of the moveable piece, and kept from immediately touching the same by means of a spring, of any suitable form. On the opposite part of the circumference of the moveable piece, and through the handle at *c*, there is bored a hole or cavity, *x*, quite through to its inner surface, in which a considerable quantity of the chemical compound before mentioned is put and confined. *o*, is a cock or arm for giving a stroke upon *e*. It may be set, discharged, and impelled by the same machinery and means as are used with respect to the cock of a common gun-lock; or the stroke may be given by any other means. The several parts of the mechanism are secured in their places by caps and screws, or by any other well-known means commonly used in works

properties of detonating powder were well known for other purposes, and that the preparations described were not new, and were so stated in the specification; that, therefore, the using of such well-known materials to discharge fire-arms was not a new manufacture for which a patent could be supported. The invention was simply a direction to use such preparations of matter as would explode by a blow, in place of using ordinary powder at the touch-hole. It was further contended, that the locks used by the defendant were different from those described in the specification. On the part of the plaintiff it was argued, that the application being new as to the public use was the proper subject for a patent, and that it was not material whether the defendant had copied the locks described, so long as they were such as would allow of the use of the detonating powder.

Meaning of term inventor
Abbot, C. J., stated, that the invention, if new, was such an one as might be secured by patent, and left it to the jury to say, whether the defendant had infringed by making and using the invention, and whether the invention was new. *His Lordship* stated, that "if several simultaneously discover the same thing, the party who first communicates it to the public, under a patent, is entitled to the benefit of it; the law not requiring that the patentee should be literally the first inventor, or finder-out of something new, but that it was sufficient, if the patentee be the first publisher or introducer of the invention."

Verdict for the plaintiff.

of this kind. In the use of the apparatus last described, the hammer, *a*, is to be raised and cocked, and the handle, *c*, brought round to the position as in fig. 6, where it is stopped by a pin or projecting piece, *h*. At this instant the hole or cavity, *x*, is brought immediately over the channel or hole, *d*, *b*, into which a priming falls out of *x*, in consequence of the slight stroke or jar produced by the sudden stoppage of *c*. Immediately after this operation the handle is to be returned to its first position, as at fig. 5, which brings the plug or punch, *e*, directly over the channel or hole, *d*, *b*, in which position only it is possible to give the stroke so as to inflame the priming, and discharge the piece. When this last effect is required to be produced, the trigger is to be drawn, and then *a* strikes *e*, and the contents of *d*, *b*, taking fire, explode through the touch-hole, and set fire to the charge, without allowing the escape of the gas or vapour in any direction but into the chamber and towards the muzzle of the piece. In witness whereof, &c.

"A. J. FORSYTH."

BRUNTON v. HAWKES AND OTHERS.

In the Court of King's Bench, May 25, 1820.

Scarlett, Marryat, Gurney, and Chitty, for the plaintiff; *The Solicitor-General (Copley), Gaselee, Stephens, and F. Pollock*, for the defendants. This was an action brought to try the validity of a patent granted to the plaintiff on the 26th day of March, 1815, for "Certain improvements in the construction, making, or manufacturing, of ships' anchors, and windlasses, and chain cables, or moorings."* On the part of the plaintiff many wit-

* The specification was in the following words:—

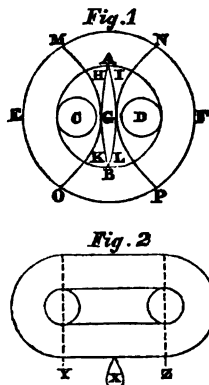
"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said Thomas Brunton, do hereby declare, that my said improvements in the construction, making, or manufacturing, of ships' anchors and windlasses, and chain cables or moorings, are described and specified in manner following, reference being had to the drawings or figures hereunto annexed; that is to say: In manufacturing ships' anchors in place of the common method of joining the arms to the shank, which is by welding, and which requires the iron to be so frequently heated as often to destroy and injure its tenacity, I make the shank in one piece, and the two arms in another piece, as follows. The piece intended for the arms is formed into shape, and of such a thickness or substance in the middle as to allow a hole to be made through the centre of the solid piece, to receive the thick end of the piece which forms the shank; and the said hole in the arm-piece is made somewhat conical, or bell-mouthed, so that no strain can separate the arms from the shank, by which means I avoid the necessity of endangering the solidity of the materials, only one heat being necessary to bring the thick end of the shank and the hole in the arm-piece into perfect contact, for I do not trust the strength of this important part of the anchor to a union effected by welding, which may, and generally is, defective, but to the impossibility of drawing a thick solid conical piece of iron through the smaller aperture of a conical opening into which it is fitted. The arms with their flukes may be made of good cast-iron, taking care to allow them sufficient substance. But anchors should not only have the utmost strength which can be attained, but also be made as secure as possible against the danger of being lost by the cable or chain by which they are attached to the ship giving way. Cables made of hemp can never be rendered safe, but chain cables may. To convey correct ideas respecting my improvements in the construction of chain cables or moorings, it is necessary that I should point out and illustrate the principles which should guide the workman in his operations. These, when thoroughly understood, will not only enable him to avail himself of my improvements after the expiration of the said term, but will qualify him to detect, and consequently to avoid, those errors and mistakes in form and construction which prevail more or less in all the chains that have hitherto been employed for cables or moorings. The object to be gained is the

nesses were called to prove that the three parts of the patent were new and useful, and that the mode of making

greatest possible strength from a given quantity of materials, keeping in mind the direction in which the strain is to be borne. If the tendency of a strain applied to a link of a bad form be once properly conceived, a great step is gained towards the adoption of a good form.

„ Let A, B, fig. 1, represent a circular link of a chain, the substance of the iron one inch; let the outer circumference be fifteen inches; and let the inner circumference be nine inches. If receding forces be applied to the two links, c, and d, (shewn in section,) pulling c towards e, and d towards f: the ultimate tendency of the effort of such forces is to change the form of the circular link into one which shall have round ends and parallel sides, as fig. 2. But a very slight examination will show, that before this can be effected the link must be destroyed, for in such a circular link the corresponding segments of the outer and inner circumferences are in the proportion of five to three, and therefore every effort to increase the distance between c and d, or, in other words, to make the parts, A, and B, approximate, must disturb the relative position of every particle of the metal, and operate to

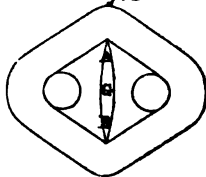
destroy its corpuscular attraction. Thus (in fig. 1) the segment, M, N, of the outer circumference being taken equal to three inches, the corresponding segment of the inner circumference will be one inch and eight-tenths of an inch. If this segment of the link is by the force of a strain to be changed from a curved to a straight form, (as in fig. 2,) the corresponding segments of the outer and inner circumference must be brought to one length, to effect which the matter contained in three inches of the outer circumference must be compressed into one inch and eight-tenths of an inch, or the matter which now occupies only one inch and eight-tenths of an inch in the inner circumference, must be made to dilate itself to three inches without losing its cohesion, or the required compression and expansion must be divided between the two; all of which are impossible without a derangement of the relative position of every particle in the mass. To be brief, the matter in this part of the outer circumference may be conceived to present an infinite number of fulcrums over which the said receding forces, by an effort to render the curve straight, must rupture and separate the matter of the inner circumference. Nor is this the only mischief that must occur, as will appear by a consideration of what must take place where the link folds round c, and d, for the larger semi-circles in fig. 2, each containing four inches and a-half (nearly) of the outer circumference, answering to two inches and seven-tenths of an inch of the inner circumference of fig. 1, must now correspond to the semi-circumference of the links, c, and d, which are each only one inch and a-half (nearly), so that in these parts the effect produced by the action of the said forces would be the same as in the former, but reversed in its operation; that is, the matter in these parts of the inner circumference presents an infinite



chains was a very great improvement in the manufacture of cables. Ship-owners spoke of very extensive use of

number of fulcrums, over which the outer circumference must be ruptured and separated by the said forces. A circular is, therefore, a bad form; but, from the foregoing, it is obvious that if the parts, *a*, and *b*, of the circular link, fig. 1, can be prevented from approximating each other, the evil that has been pointed out will be lessened. Suppose a stay, *a, c, b*, to be introduced for this purpose, and as before, let receding forces be employed in the directions, *c, z*, and *d, f*, what will be the effect? The circular link will now be able to resist a greater force than before, having two points of support; but the unsupported parts between the points, *a, c, b*, and *d*, will, by the effort of the said force, endeavour to assume a quadrilateral form, somewhat like fig. 3; a change that cannot be effected without a derangement of the matter in the link, which must rupture and destroy it. Such stays as *a, c, b*, (figs. 1, and 3) have been used in chains, but such a stay only supports two opposite points in the link; and I have shown that the tendency of receding forces, applied as before described, is to straighten, and consequently to rupture, the parts that are still left unsupported.

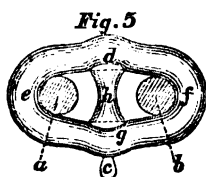
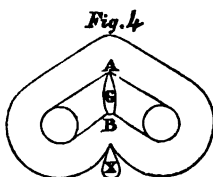
Fig. 3



"My said improvements in chain cables or moorings are founded on considerations drawn from the facts that have been alluded to. If a circular link, instead of being supported only in the two opposite points, *a*, and *b*, have its opposite sides supported by a stay, embracing two considerable and opposite segments, suppose, *h, i*, by the stay, *k, l*, taking care to leave such openings as shall allow sufficient play for the links to be received into it; the link will be much stronger than with such a stay as *a, c, b*; but still the link will prove to be of a bad form, for the tendency of receding forces, applied as before, would break the piece, *m, o, k, c*, over the point, *c*, as a fulcrum, and the piece, *n, p, l, d*, over the point, *d*, as a fulcrum. And, moreover, even if circular links could be made unobjectionable as to strength, they should be avoided on account of the greater weight of metal which a given length of chain would require than when formed of links of a less exceptionable form. We have seen that the tendency of receding forces applied to curved links is to draw portions of them into straight forms, and hence it follows, that twisted links of every kind should be avoided where strength is required; for such links, even if their opposite sides be supported by an interposed stay, like *a, c, b*, must, by the application of a sufficient strain, untwist themselves to become straight, and thus have the arrangement of their particles disturbed. As the tendency of forces applied as before mentioned to curved or twisted links is to convert the curves or distortions into straight positions, as above described, it follows, that links, presenting in their original construction straight parts between the points of strain, are the strongest that can be made with an equal portion of metal, and hence links with parallel sides and semi-circular ends would in every case be preferred were it not necessary to the quality of good chain that it should be able to resist lateral violence as well as a general strain, operating by stretching. Suppose that by any accident the link, fig. 2, should have its ends

the cables and of the anchors, and of the safety to ships brought about by the use of the invention, and great saving in cost of cables and anchors. Scientific men spoke to the great strength of cables made according to the patent, and that those made by the defendants were like those of the patent; that the specification very fully

drawn towards *y*, and *z*, while a resisting body at *x* opposes its motion in the direction of the applied forces, the side of the link next to *x* would be bent inward; and if in such a link a stay like *A*, *a*, *B*, were introduced, then the link would be solicited by the said force to assume a form somewhat like fig. 4.



"From the preceding considerations it is evident, that of all the forms and constructions that can be given to a link, that form and construction which shall be able to convert a lateral into an end strain, by yielding proper support to the opposite sides of the link, is the one that should be preferred, and of such a form and construction is the link, fig. 5, with my broad-ended stay, introduced between the sides of the link; for if this link (which presents its principal substance and all its points of resistance in the same place) be drawn towards *a*, and *b*, against an obstacle, *c*, it is apparent, from a bare inspection, that the parts, *d*, *e*, and *d*, *f*, which are supported by the parts, *g*, *e*, and *g*, *f*, must be drawn asunder before the link can give way, for the matter in *e*, *g*, and *f*, *g*, cannot be made to

penetrate itself; and the two sides are compelled to retain their relative positions by my interposed broad-ended stay, *h*, a cross section of which, through its middle, is shown in fig. 6. I need hardly add, that at the time that the stay, *h*, is introduced the link is wide enough to receive it, and the link being red-hot at the time of its introduction, and being pressed home to the stay by a die or press, or any suitable mechanical means, takes a fast hold of it, and retains it in its place. Other ways of introducing and retaining in its place my broad-ended stay may be employed; but I have found the preceding exceedingly simple and efficacious.

"On my broad-ended stays I have only farther to remark, that they should embrace the whole, or the greater portion, of the opposite curved parts of the middle of the link; and even if the middle of the link be made to form two opposite obtuse angles, the ends of the stay should not embrace much less than the proportion exhibited in fig. 5: but in making the said ends to embrace any larger portion, provided sufficient room is left for the play of the links received into it, there will be no harm, only the chain will thereby be rendered heavier, which may sometimes, though not generally, be desirable.

[The specification then described the windlass, but as that part of the patent was not brought in question it will be unnecessary to give it here.]—In witness whereof, &c.

"THOMAS BRUNTON."

described the invention, and that many experiments had been made by them in order to ascertain the relative strengths of cables made according to the plaintiff's patent and that of Captain Brown; that all previous chains for cables, where stays were used, had indentations formed on the interior of each link to receive the stays, which weakened the chain of a given weight; and, that the form of the link shown in the patent was as necessary as the form of the link to the obtaining the greatest strength, and the greatest length of a cable with a given weight of metal. Evidence was given to show, that after many experiments made with these chain cables against those of Captain Brown, and also against hempen cables, the Government had been induced to take the plaintiff's cables in preference to all others.

Mr. Solicitor-General contended, on behalf of the defendants, that the patent being for three things, if either failed, the patent was bad altogether; and called on his Lordship so to rule.

Lord Chief Justice Abbott.—It is not necessary in the present stage of the proceedings to determine this point of law. I will reserve it, in case the question should assume a shape to render the determination needful.

Mr. Solicitor-General continued, by stating, that he should show that the anchors were old; that there were several classes of ships' anchors, many of which classes he should prove had been many years made according to the specification. Every anchor is a ship's anchor, and the patent being taken for ships' anchors, the making of any class of anchor, according to the patent, would be an infringement. If the patentee only intended to apply the mode of construction to a particular class of ships' anchors, he should have so stated it in his specification; in place of which, the specification was as general as the patent. He would also show, that cables made with stays were not new; that he should not trouble the jury on the subject of the windlass. The Learned Gentleman called several witnesses to prove, that many descriptions of chains had been made with stays; that in 1808 chains were made for two bucket-engines at Portsmouth, and for the bomb-proof well at Dover; that the chain from Dover came into the old stores at the Tower in 1815 and was sold. In cross-examination it was stated by the witnesses, that these chains had not been used for cables,

nor were they suitable for cables; that the links and stays were similar, though not the same as the plaintiff's. Anchor-makers and others were called to show, that mushroom-anchors, adz-anchors, and wedge-anchors for mooring ships and floating-lights, were commonly made before the patent, as described in the plaintiff's specification; and that they only differed in the shape of the flukes from those usually carried by ships for the same purpose. Mooring anchors were used for stationary anchors. It was also shown, that the plaintiff had lately made the sides of his links more parallel than in the specification.

Mr. Stephens submitted, that the specification was bad in not giving any dimensions of the stay; and contended, that a drawing, or a figure, was not an instrument in writing, as required by the patent.

*Drawing if intelligible
as good as verbal
description*

Lord Chief Justice Abbott.—If a drawing, or figure, enables workmen of ordinary skill to construct the improvement, it is as good as any written description.

Mr. Scarlett was about to reply, when the jury intimated that they had made up their mind.

Lord Chief Justice Abbott.—As the plaintiff's counsel has not addressed you, and as you state that you have made up your mind, and are masters of the case, it is unnecessary to recapitulate the evidence; but, in giving your verdict, it may save trouble hereafter if you will state distinctly, whether you find the chain-cables new and useful, and whether you find the anchors new and useful.

The jury immediately found, that the windlasses, anchors, and cables, were all new and useful, and that the chain-cable had been infringed. Their verdict was therefore entered for the plaintiff.

BRUNTON v. HAWKES AND OTHERS.

In the Court of King's Bench.—Trinity Term, 1821.

A rule *nisi* was obtained for a new trial, on the grounds, that there was not sufficient novelty in the invention, so far as it related to chain-cables, which consisted only of making the stays wider at the ends, so as to give more extended support to the sides of the links to what was given by Brown's patent chain-cables; and that the mode of making anchors was old.

In support of the patent, and in opposition to the rule for a new trial, it was now contended, that supposing either part of the invention was new and useful, that would support the patent. The merit of the plaintiff's patent for chain-cables consisted in this, that the inventor had so combined his link and stay as to make the link continue in its form and to give the greatest strength. The link and stay were so united together, as that the former would never alter its form without rupture, and that had never occurred. The invention did not consist in the form of the link, or the form of the stay, although, if either were altered, the invention would be destroyed. If the stay were pointed it would operate unfavourably, therefore the broad-ended stays were used. If the links were twisted as formerly it would not have its full play; if it were circular it would be changed in form into an oval when strained in use, therefore the great utility of the combination of the particular form of link with the broad-ended stay described in the specification. Then, with regard to the anchor, the mode pointed out in the specification had never before been applied to the manufacturing of ships' anchors. It was true that the mode had been applied to that which, from the poverty of language, is embraced under the same generic word, viz., to mushroom and adz-anchors; they, however, were never taken on board as ships' anchors; they might, in fact, be called submarine posts. The merit of this part of the patent consists in the first application of that mode of uniting the several parts of ships' anchors; and supposing that this part of the invention should be held not to be new, that would not interfere with the validity of the patent for the other articles. The Crown, by its prerogative, might, in the same patent, grant three estates in three different counties. If, from some circumstance, the grant were void as to one estate, it by no means followed that it would be void as to the other two.

Lord Chief Justice Abbott.—It is not without great reluctance that my mind has at length come to a conclusion, which (as far as my judgment goes) will have the effect of avoiding this patent. It appeared in evidence at the trial, that the mode of making cables and anchors, introduced by the plaintiff into general use, was highly beneficial to His Majesty's subjects; and I should wish that he who introduced it might be entitled to sustain the

patent. Upon a full consideration of all the arguments that have been addressed to us, and a view of the patent, the specification, and the evidence given at the trial, I feel myself compelled to say, that I think so much of the plaintiff's invention as respects the anchor is not new; and that the whole patent is therefore void. The mode of joining the shanks to the flukes of the anchor is to put the end of the shank, which is in the form of a solid cylinder, through the hollow and conical aperture, and it is then made to fill up the hollow, and to unite itself with it. Now, that is precisely the mode by which the shank of the mushroom-anchor is united to the mushroom-top; by which the shank of the adz-anchor is united to its other parts. It is, indeed, the mode by which the different parts of the common hammer, and the pick-axe, also, are united together. Now, a patent for a machine, each part of which was in use before, but in which the combination of the different parts is new, and a new result produced, is good; because there is a novelty in the combination. But here the case is perfectly different: formerly three pieces were united together; the plaintiff only unites two; and if the union of these two had been effected in a mode unknown before, as applied in any degree to similar purposes, I should have thought it a good ground for a patent; but, unfortunately, the mode was well known, and long practised. I think, that a man cannot be entitled to a patent for uniting two things instead of three, where that union is effected in a mode well known and long practised for a similar purpose. It seems to me, therefore, that there is no novelty in that part of the patent as affects the anchor; and, if the patent had been taken out for that alone, I should have had no hesitation in declaring that it was bad. Then, if there be no novelty in that part of the patent, can the plaintiff sustain his patent for the other part, as to the mooring-chain? As at present advised, I am inclined to think that the combination of a link of this particular form with the stay of the form which he uses, although the form of the link might have been known before, is so far new and beneficial as to sustain a patent for that part of the invention, if the patent had been taken out for that alone. But inasmuch as one of the things is not new, the question arises, whether any part can be sustained. It is quite clear that a patent granted by the Crown cannot extend

*Patent good for
new combination*

beyond the consideration of the patent. The King could not, in consideration of a new invention in one article, grant a patent for that article and another. The question, then, is, whether, if a party applies for a patent, reciting that he has discovered improvements in three things, and obtains a patent for these three things, and in the result it turns out that there is no novelty in one of them, can he sustain his patent? It appears to me, that the case of *Hill v. Thompson and Forman*,* which underwent great consideration in the Court of Common Pleas, is decisive upon that question. In that case the patent was granted to the plaintiff for the invention of certain improvements in the smelting and working of iron; and the Court of Common Pleas appeared to have considered, that the improvement introduced by the plaintiff into what may properly be called the smelting of iron, was the obtaining iron from that cinder and slag which before had been thrown away as refuse, and that that might be considered as new. It appeared, however, that the plaintiff claimed further the merit of having discovered that the application of lime, in certain stages of the process, would cure a disease common to all iron; not merely to that which he was to produce, but to iron originally manufactured from the fresh ore. Now, it turned out, that that was not a discovery; for the application of lime to iron made from the cinder originally used in making the ore, was known and practised before. No two things can be more distinct in their nature than the obtaining of iron from a material from which it was impracticable to obtain it before, and the cure or prevention of a disease to which all iron was subjected. In that case, however, the Court of Common Pleas held, that, admitting there was novelty in the one, yet, as there was no novelty in the other, the patent was wholly void. The only difference between that case and this is, that here the plaintiff, instead of saying that he has made certain improvements, states the improvements; but still he claims the merit of having invented improvements in all the three. The patent is granted upon the recital, that he has made improvements in all the three, and that they are new; and the consideration of the patent is the improvement in the three articles, and not in one; for an improvement in only one of them would render the patent bad. The consideration

* *Ante*, p. 375.

is the entirety of the improvement of the three; and if it turns out there is no novelty in one of the improvements, the consideration fails in the whole, and the patentee is not entitled to the benefit of that other part of his invention. For these reasons, I am of opinion that this patent cannot be supported. There must, therefore, be a new trial. The plaintiff, if so advised, may then put the question upon record, and take the opinion of a Court of Error.

Mr. Justice Bayley.—I think that, in this case, there ought to be a new trial. I have no doubt, that if the patent is bad as to part, it is bad as to the whole. If a patent is taken out for many different things, the entire discovery of all those things is the consideration upon which the King is induced to make the grant. That consideration is entire, and if it fails in any part it fails *in toto*. Upon an application for a patent, although the thing may be new in every particular, it is, in the judgment of the Crown, whether it will or will not, as matter of favour, make the grant to the person who has made the discovery. And when an application is made for a patent for three different things, it may be considered by the persons who are to advise the Crown as to the propriety of the grant, that the discovery, as to the three things together, may form the proper subject of a patent, although each *per se*, would not induce them to recommend the grant. It seems to me, therefore, that if any part of the consideration fails, the patent is void *in toto*. Now, in this case, the patent is for the improvement of ships' anchors, and windlasses, and chain-cables, or moorings. If it had stood on the subject of the improvement in chain-cables only, the impression on my mind is, that the patent would have been good. The improvement in that respect, as it seems to me, is shortly this: so to apply the link to the force to operate on it, that that force shall operate in one place, namely, at the end; and this is produced by having a bar across, which has not the defect of the bar formerly used for similar purposes. The former bars weakened the link, and they were weak themselves, and liable to break, and then, if they broke, there might be a pressure in some other parts. Now, from having a broad-ended bar, instead of a conical one, and having it to lap round the link, instead of perforating it, that inconvenience would be avoided; and therefore

the present impression on my mind as to this part of the case is, that the patent might be supported. As to the ship's anchor, in substance, the patent is for making in one entire piece that which formerly was made in two. The two flukes of the anchor used to consist of distinct pieces of iron, fastened to the shank by welding. In the present form the flukes are in one piece, and instead of welding them to the shank, a hole is made in the centre, and the shank introduced through the hole. Could there be a patent for making in one entire piece, what before had been made in two pieces? I think not; but if it could, I think still that this would not be new. In the mushroom and the adz-anchors, the shank is introduced into the anchor by a hole in the centre of the solid piece; and, in reality, the adz-anchor is an anchor with one fluke, and the double-fluke anchor is an anchor with two flukes. After having had a one-fluked anchor, could you have a patent for a double-fluked anchor? I doubt it very much. After the analogies alluded to in argument, of the hammer and pick-axe, I do not think that the mere introducing the shank of the anchor, which I may call the handle, in so similar a mode, is an invention for which a patent can be sustained. It is said, in this case, that the mushroom-anchor and adz-anchor are not ships' anchors, but mooring anchors. I think they are ships' anchors; they are not, indeed, such anchors as ships carry with them for the purpose of bringing the ship up, but if the ship is required to be stationary, at a particular place, then the common mode of making it stationary is by the mushroom-anchor. The mode adopted to bring a ship containing a floating light to an anchor, is by mooring her to one of these mushroom-anchors. That is the description of anchor for a holdfast to the ship. The analogy between the case of the mushroom-anchor and of the adz-anchor, is so close to that of the present anchor, that it does not appear to me that this discovery can be considered so far new as to be the proper ground of a patent. In reality, it is nothing more than making in one piece what before was made in two, and introducing into this kind of anchor the shank, in the way a handle is introduced into a hammer or pick-axe. I think, therefore, that this not being a new discovery, the patent is wholly void; and, that being so, there must be a new trial. The plaintiff may then put the question upon

the record and take the opinion of a Court of Error upon the subject.

Mr. Justice Best.—I am of the same opinion. In the case of *Hill v. Thompson and Forman*, the Court of Common Pleas, with great reluctance, came to the conclusion, that a patent taken out too large, is not only void for the excess, but void altogether. That case afterwards came under the consideration of the Lord Chancellor;* and he is reported to have said, "In his directions to the jury, the judge has stated it as the law on the subject of patents, first, that the invention must be novel; secondly, that it must be useful; and, thirdly, that the specification must be intelligible. I will go further, and say, that not only must the invention be novel and useful, and the specification intelligible, but, also, that the specification must not attempt to cover more than that, which, being both matter of actual discovery, and of useful discovery, is the only proper subject for the protection of a patent. And I am compelled to add, that if a patentee seeks, by his specification, any more than he is strictly entitled to, his patent is thereby rendered ineffectual, even to the extent to which he would be otherwise fairly entitled. On the other hand, there may be a valid patent for a new combination of materials previously in use for the same purpose, or for a new method of applying such materials. But in order to its being effectual, the specification must clearly express, that it is in respect of such new combination or application, and of that only; and not lay claim to the merit of original invention in the use of the materials." The case, indeed, does not want that authority; for in the patent the King states, that he grants it upon condition that the specification shall be enrolled in the Court of Chancery for the inspection of the public. According to these terms, therefore, the specification must embrace two objects: it must, first, clearly describe the nature of the invention; and, secondly, the manner in which it is to be performed. When this case was first presented to my mind, it occurred to me, that this was a new combination of old principles, and that the patent was therefore good. I now, however, doubt whether the patent could be supported as to the mooring-chain, for the specification cannot stand as a description of a new combination of known principles: it claims an invention

*Spec must clearly
express the limit of
invention, when that is
narrow*

* *Ante*, p. 377.

as to a part of it, which certainly is not new. I allude particularly to the form of the link. The specification states, that the object to be gained is, the greatest possible strength from a given quantity of materials, keeping in mind the direction in which the strain is to be borne. It afterwards says, that this is to be done by the use of that which is new, viz., by the stay introduced between the links, and which, instead of entering them, embraces their sides. If that alone was to be done, it would be new; but the specification, further, goes on to say, "It is evident that, of all the forms and constructions that can be given to a link, that form and construction which shall be able to convert a lateral into an end strain, by yielding support to the opposite sides of the link, is the one that should be preferred." It appears to me, that the patentee here first claims the merit of originally using the links in the particular form described in his specification, instead of circular links. Now, there can be no doubt, that links of that form had been used long before. Then, as to the anchor, the invention claimed is, that he avoids the welding; but that certainly is not new, because that has been done before, in the case of the mushroom and adz-anchor, and the pick-axe. It is said, however, that this invention consists in the application of that which was known before to be a new subject-matter; viz., that he had, for the first time applied to the manufacturing of anchors, a mode in which welding was avoided, which, however, had been long practised, in other instances to which I have before alluded; but he does not state that as the ground upon which he had applied for his patent, nor state in the specification that, it being known that the process of welding weakens the anchor, he had first applied to an anchor a mode long practised in the manufacture of other instruments, viz., of making the two flukes of one piece instead of two. If he had so described his process, the question would then arise, whether that would be a good ground for a patent. I incline to think, however, that it having been long known that welding may be avoided in instruments of a similar form, the application of that practice, for the first time, to a ship's anchor, cannot be considered a new invention, and, therefore, that it is not the ground of a patent. It is unnecessary, however, to decide that question in this case, because the patentee has claimed the mode of avoiding welding as a new dis-

covery. That is not a new discovery; and he has, therefore, taken out his patent for more than he is entitled to; and I am of opinion, that that avoids the patent *in toto*, for the King is deceived: the patentee is represented to have the merit of inventing two things, whereas he has discovered only one; and the Crown might have considered the discovery, as to both, a sufficient ground for granting a patent, when it would not have thought so of the discovery of one alone. This has been compared in argument to the case of a grant of lands. If, in the same deed, there were included three conveyances of three distinct estates, on three considerations, one might be set aside and another be good; but if the grant were upon one consideration which was bad, the whole would be void, because the consideration would fail altogether. Now, the present case is similar to that, because here the consideration to induce the King to grant the patent was, the statement made by the plaintiff in his petition, that there had been three inventions, when, in fact, there had been only two. The united consideration upon which the whole grant was made, is therefore void: and, consequently, the grant itself is void. I am, therefore, of opinion, that there ought to be a new trial.

Rule absolute for a new trial, and no attempt was afterwards made to support the patent.

CAMPION v. BENYON AND ANOTHER.

In the Court of Common Pleas.—Trinity Term, 1821.

AN action was brought to try the validity of a patent granted to the plaintiff the 13th day of April, 1813, for "A new and improved method of making and manufacturing double canvass and sail cloth with hemp and flax, or either of them, without any starch whatever;"* and the

* The specification was as follows:—

"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said Robert Campion, do hereby describe and ascertain the nature of my said invention, and the manner in which the same is to be performed, as follows; that is to say: My new and improved method of making and manufacturing double canvass and sail-cloth with hemp and flax or either of them, without any starch whatever, consists in first spinning the warp yarn either by hand, or with the sort of machinery generally used for such purposes, without water or dampness of any kind whatever; afterwards

jury found for the plaintiff, his Lordship making a note of the objection to the patent. At the trial it was objected, that the patent was bad; that the invention was old, and had before been the subject of a patent granted to one *Cathcart Dempster*, on the 30th day of August, 1803, for "Certain improvements in the manufacture of canvass, or strong cloths of vegetable materials, for sails, tents,

properly cleansing and bleaching the same in the best manner, and having made it perfectly dry from that process, placing and working it on a machine similar to those commonly used in cotton manufactories; round the upper bobbins of which machine, the same is rolled in single threads, so as that when the said machine is put in motion in the usual manner, the effect thereof is to untwist those threads, and take out of them all the twist that was made therein by the operation of spinning, and to twist or interweave two of them into one thread on to half the number of other bobbins in the lower part of the said machine, the reverse or contrary way to that in which the single threads or warp had been before twisted; by this process, the yarn is not so hard twisted as at first, and in the operation of thus reversing the twist, the fibres of the flax are so closely united, and are laid or arranged so perfectly level and even in every respect as to render the warp yarn or threads much stronger than any double threads are by the usual mode of manufacture with starched chains; the double threads or warp yarn being thus prepared and twisted together into one chain or warp, the same is thereby preserved from injury whilst passing through the slay walk in the subsequent operation of weaving, and thus the necessity of using any starch or substitute for starch whatever, which in the ordinary mode of manufacture is used only for the purpose of uniting the two threads or warp, and making them smooth so as to pass through the slay walk with facility and without injury, is altogether superseded. The canvass thus manufactured is much more pliant than what is made with starch or in any other manner, and is stronger, not only because its being so very regular and even, necessarily makes the stress equal in every part, but because in consequence of there being no starch used in the manufacture, the weight of that material, which is considerable in every web or piece, must be supplied by an additional quantity of warp and woof, and being soft and pliant, it will thicken when used, and become of a closer texture without breaking or running up, or being liable to mildew or turn black. Where hemp is used in the manufacture, I hackle the same with soft soap and a very small proportion of oil in preference to the entire use of oil, as generally practised; for this preparation lays the fibres as even as oil does, and at the same time counteracts the viscous qualities of the hemp, and with a proper quantity of pearl or potash assists in bleaching the yarn, and obtaining a good colour in that process. The advantages of my invention of course extend to canvass made of unbleached yarn, and the only difference in the manufacture thereof is the process of bleaching being then dispensed with.—In witness, &c.

"ROBERT CAMPION."

packages, and other useful purposes."* And it was proved, that canvass without starch had been made under that patent since 1803; but that, although Dempster used the yarns double, he did not twist them. Much evidence was given on both sides for the plaintiff; that the twisting of the yarns into threads and then using them, was an important improvement over that of Dempster's patent and all others. But the question chiefly turned on the specification, with reference to the title of the patent, and the previous making of sail cloth without starch. A rule *nisi* was obtained last term to enter a nonsuit, and the case came on for argument.

Mr. Serjeant Vaughan and *Mr. Serjeant Pell* for the plaintiff.

Mr. Serjeant Lens and *Mr. Serjeant Hullock* for the defendants.

On the part of the plaintiff it was contended, that the invention was for the doubling the yarn by giving a back twist, as described; and that the dispensing with the use of starch was only a result, and not the novelty claimed. On the part of the defendants it was argued, that the words, "without any starch whatever," evidently claimed to have discovered the utility of dispensing with

* The specification was as follows:—

"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said Cathcart Dempster, do hereby declare that the nature of my said invention, and the manner in which the same is to be performed, are described as followeth; that is to say: Instead of using single yarns not twisted, but glued together with starch, or other mucilage, in order to form the warp of the canvass, as is now commonly done, to the great injury of the article, by rendering it liable to spontaneous destruction by mildew, I use twine, composed of two or more yarns of prime material, of equal size and strength, both for the warp and woof. And I am by that means enabled to weave, and I do weave, my canvass without starch, or any other mucilage whatever, and do thereby produce an article nearly twice as strong as common canvass of the same weight and fineness, and with the advantage that its threads have an equal bearing on one another in all directions, not liable like the common canvass to split longitudinally, being much stronger in the cross direction, not capable of rot or mildew, from the presence of mucilage, and extremely durable, because it is subject to no irregular action of sharp cutting threads on its woof, but is only exposed to the fair, slow, and gradual wear of its well-combined and duly proportioned component parts, which maintain their relative strength to the last.—In witness, &c.

"CATHCART DEMPSTER."

the use of starch. If the plaintiff had only intended to claim an improvement in making unstarched canvass, they would not have used such a title to the patent.

Their Lordships gave judgment as follows:—

Lord Chief Justice Dallas.—What is the fair import of this patent as compared with the specification is now the only question for us to decide, it being unnecessary to enter into any other. With respect to patents, every patent being a monopoly, that is, an infringement of public right, and having for its object to give the public warning of the precise extent of the privilege conferred on the patentee, the Court (without going into the controversy, whether it is politic that such privileges should be conferred or not) is bound to require that such warning should be clear, and actually describe what the inventor claims as his own. *If there is ambiguity in any material point, patent void.* If the instrument contain any ambiguity on a material point, that is a ground on which it may be avoided altogether.

Having premised thus much, let us see for what the present patent is granted. It is agreed that the instrument is not altogether a subject of legal, but, in some degree, of grammatical construction; for if the instrument be chargeable with grammatical ambiguity, it cannot give that clear description which every man who reads may understand. The patent is “for a new and improved method of making and manufacturing double canvass and sail cloth with hemp and flax, or either of them, without any starch whatever.” On reading this, how is a common person to decide? The discovery claimed is not simply a method of making double canvass and sail cloth, but a new and improved method; and in what is this new and improved method stated to consist but in the making the cloth without any starch whatever? From the time I first read the patent down to the present day, I thought that the object of the patentee was to make cloth without starch. Then as to the specification, if that be different from the patent the whole is void; if it coincides it is open to the same objection as the patent. But the specification, after describing the operation of spinning, and after stating that thereby the necessity of using any starch, or substitute for starch, whatever is superseded, proceeds to allege that “the canvass thus manufactured is much more pliant than what is made with starch or in any other manner; and is stronger, not only because its

being so regular and even necessarily makes the stress equal in every part, but because, in consequence of there being no starch used in the manufacture, the weight of that material must be supplied by an additional quantity of warp and woof; and being soft and pliant, it will thicken when used, and become of a closer texture, without breaking, or running up, or being liable to mildew or turn black." Whether we look to the patent or the specification, I have no doubt that the claim of the plaintiff is too extensive; it is not confined to an improved method of weaving the cloth or twisting the threads, but also comprehends another mode of proceeding, which is not a new discovery.

Mr. Justice Park.—There can be no doubt that ingenious men who incur labour and expense in the production of inventions advantageous to the public, have a fair claim to be indemnified by the exclusive privilege of a patent. But, on the other hand, it is important that the public should have the means of turning such inventions to account after the inventor has been satisfied for his trouble; and it is for this reason, among others, that every patent ought to contain a clear statement of what the party has accomplished. An unlettered person who read this patent would conceive that the patentee's improvement consisted in manufacturing sail cloth without starch. But in order to see with more precision what the party meant to claim, we must look to the specification; and this it is impossible to read without thinking that the omission of starch was the principal part of the improvement which the patentee meant to claim as his own. In his process he tells us the necessity of using starch is superseded, and mildew thereby entirely prevented. But if he only meant to claim as his own an improved mode of texture or twisting the thread, to be applied to the making of unstarched cloth, he might have guarded against ambiguity by disclaiming as his own discovery the advantage of excluding starch. Proceeding on the specification, it is impossible that this patent can be supported; for though a patent for an improvement on an old discovery may be sustained, a patent which, in addition to the merit of the improvement, claims the merit of the old discovery, can never be permitted to vest in the patentee an exclusive privilege for the old discovery.

*Patent for an imp't on
an old invention must
be confined to the imp't
and take in the old
invention*

Mr. Justice Burrough.—All the cases and the reason of the thing show that a patent can only be sustained for a new discovery; and the specification must support the patent. Now, what is this patent for?—"A new and improved method of making and manufacturing double canvass and sail cloth without any starch whatever." And what has really been the discovery, if it be a discovery? A new method of preparing or twisting the hemp or flax; and the patent should have been taken out for that alone. I am clear that this is bad on the title, the patent, and the specification: the King has been deceived, and the patent is void.

Mr. Justice Richardson.—The plaintiff must be nonsuited on the ground that the patent is taken out for more than he has discovered. On this point the law is clear. In some specifications the party goes on to say, such things I do not claim. The patent should have been confined to what the patentee could call his own; and it contains something of his own and something of another's: it is bad because it claims too much. If the specification had been guarded against misapprehension on the part of the public, by stating that the patentee claimed no merit from the exclusion of starch, it is not impossible but that the patent might have been valid. The principle is, that though ingenious men ought to be rewarded for their discoveries, the public at large and other ingenious men ought not to be restrained from doing whatever is not peculiar to the process employed by the patentee. The specification in this case, from beginning to end, refers to the advantages to be derived from the exclusion of starch in the manufacture of sail cloth; and as that is not a discovery which the plaintiff can call his own, the patent cannot be sustained.

*Heaven ought to find
the limit of private
property*

The rule was therefore made absolute for a nonsuit.*

HALL v. JARVIS BOOT AND FRANCIS BOOT.

In the Court of King's Bench.—December 17, 1822.

Mr. Solicitor-General (Copley), Mr. Scarlett, the Common Serjeant (Denman), and Mr. Reader for the plaintiff.

* Should a similar case to this now occur, the patent might be rendered valid by disclaimer, *Morgan v. Seward, post.*—W. C.

Mr. Gurney, Mr. Gaselee, and Mr. F. Pollock for the Defendant.

Mr. Reader opened the pleadings; and

Mr. Solicitor-General addressed the Court and jury. —Within the last twenty or thirty years a very great improvement has been made in this country in the manufacture of lace; previously to that period, the greater part, or a large part, of the lace used in this country was imported from abroad, particularly from France and the Netherlands; now, it happens that a very small part of our lace is received from abroad, and a great part of the lace manufactured in this country is exported to the Continent, particularly to France; the net work is exported plain to France, and is there ornamented, and figured, and sold in that country. This change has arisen in consequence of a very ingenious invention of a gentleman of the name of Heathcoat, who contrived, about twenty years ago, a machine of great ingenuity and great complexity, for the purpose of manufacturing lace.

After this alteration took place, the material principally used in the manufacture was cotton thread, the lace manufactured on the Continent was principally from flaxen thread. In this country it was principally cotton thread, for two or three reasons, first of all, that cotton thread was cheaper; and, secondly, that it may be spun much finer than thread of flax; but there was always a defect, which was apparent the moment any one looked at the lace; that made from flaxen thread was much smoother on its surface, cotton thread has a species of wool; very beautiful lace, when held up, is almost black, so as to afford a dark ground to the figure by which it is ornamented; the beauty of lace consists in that appearance, therefore, although the lace I have mentioned, manufactured from cotton, was extremely perfect and beautiful in its texture, a sort of roughness in the cotton thread gave an air of whiteness, or fogginess, to the general appearance; it was an inconvenience greatly felt, because as lace is manufactured for the purpose of ornament, anything which breaks in upon that, decreases its value. It occurred to some that it might be removed by heat. *Mr. Hall*, a man of great mechanical science, directed his attention to this, and it occurred to him, that the flame of gas might be very well applied to this pur-

pose, and he constructed a machine, into which a pipe was introduced, which had a great number of perforations on the top, a continued line, as it were, of flame, the lace was passed by a motion just rapid enough to singe the fibre. He put a narrow chimney the whole length of the line I have mentioned, just above the tube, introducing the lace between, and introducing a rapid current of air, the flame was drawn up the chimney, and it had then the effect of singeing the sides of the interstices; he applied it practically, the texture of the lace was improved by burning, or rather singeing off those little roughnesses of the thread, and the lace was not in the slightest degree injured, it was hardened and improved, and all the lace now used in this country is improved in the manner I have described; all which is sent out to the Continent is also improved in the manner I have described, and the exportation of lace has, in consequence, increased to a very great degree.

The moment he had completed his invention, he took out his patent. We shall prove, that for a period of many months, the defendants have been engaged in this piracy.

The patent and specification were put in and read;*

* The specification was as follows:—

"To all to whom these presents shall come, &c.—I, Samuel Hall, of Basford, Nottinghamshire, Cotton Spinner, send greeting, whereas, I did by petition, humbly represent to his present Majesty, King George the Third, that I had invented *A certain method of improving every kind of lace or net, or any description of manufactured goods whose fabric is composed of holes or interstices, made from thread or yarn, as usually manufactured, of every description, whether fabricated from flax, cotton, wool, silk, or any other vegetable, animal, or other substance whatsoever.* Now know ye, that in fulfilment of the said proviso, I, the said Samuel Hall, have executed this instrument, by which I do declare, that my method of improving every kind of lace, or net, or any description of manufactured goods whose fabric is composed of holes or interstices, made from thread or yarn, as usually manufactured, of every description, whether fabricated from flax, cotton, wool, silk, or any other vegetable, animal, or other substance whatsoever, is described and ascertained in the manner following:—The object of my invention is to remove from every kind of lace, or net, or other goods of the description above mentioned, all superfluous and loose fibres, or ends of fibres, which are not so bound and twisted into the thread, or yarn, of which the lace, or net, or such other goods, is composed, as to form a part of the solid body thereof; these superfluous fibres do not contribute to the strength of the thread, or of the lace, or net, or such other goods, as aforesaid, but form a kind of fur, or wool, around the threads, which make them appear thicker than they really are, and also fills up the meshes, holes, or interstices, of the lace, or net, or such other goods, as

and evidence of several manufacturers of lace were called to show the great utility of the invention, and the advan-

aforesaid, and makes them appear indistinct and woolly. My method of improving lace, or net, or such other goods, as aforesaid, is by passing them through, or at a very small distance over a body of flame, or fire, produced by the combustion of inflammable gas, while the said flame, or the intense heat thereof, is urged upwards, so as to pass through the holes, or meshes, of the lace, or net, or such other goods, as aforesaid, by means of a current of air, which is produced by a chimney fixed over the flame immediately above the lace, or net, or such other goods, as aforesaid. The action of the flame is to burn, singe, and destroy, as much of the said superfluous fibres, or fur, as may be removed without injury to the lace, or net, or such other goods, as aforesaid. A long piece of lace, or net, or such other goods, as aforesaid, or several pieces united together so as to form a large sheet, is made to pass between two rollers mounted one over the other, like the rollers of a flattening-mill, and the lace, or net, or such other goods, as aforesaid, are further to be extended over other rollers, so as to spread part of the lace, or net, or such other goods, as aforesaid, in an horizontal position beneath this part, the flame is applied, and the rollers being turned round will cause the lace, or net, or such other goods, as aforesaid, to pass through, or at a very small distance above, the flame, so that every part of the piece shall in succession be subjected to the action thereof; and the velocity of the movement must be so regulated, that the superfluous fibres of the lace, or net, or other goods, as aforesaid, will be acted upon in its passage through, or over, the flame, without having time to injure the lace itself. It must be obvious that the rapidity of the motion must depend upon the nature of the lace, or net, or such other goods, as aforesaid, and the intensity of the flame. It is, of course, impossible to give any general description of the motion that will be applicable to different cases. A slight trial, however, will be sufficient in each instance to ascertain and regulate the velocity. A regular and uniform motion will, of course, be most convenient and advantageous. The operation may be repeated as often as is found necessary to effect the requisite improvement of the lace, or net, or such other goods, as aforesaid; and the operation will be most readily effected if the two ends of the piece are united together so as to form an endless band, which, being extended over a system of rollers, will circulate about the said rollers when they are turned round, and so every part of the endless band will pass and repass continually through or over the flame. The apparatus for the production of the inflammable gas may be the same which is well known, and in use for the purpose of illumination. The gas is to be conducted in pipes to the machine, and to enter into a tube, which is placed horizontally beneath the lace, or net, or such other goods, as aforesaid; when the lace, or net, or such other goods, as aforesaid, have been sufficiently operated upon by the flame acting on one side, the piece is reversed, and the other side is subjected to the action of the flame."

[The specification then described, by the aid of a drawing, the apparatus used, but as the same was not called in question, it will not be necessary to introduce the same.]

"As the lace, or net, or such other goods, as aforesaid, will be some-

tage of using gas for singeing lace; by whom it was shown, that it was not new to singe the fibres of lace and other fabrics; hot cylinders, and also other flames, had been used before the patent for that purpose. That the beauty of lace was greatly improved by gassing it, and the fibres were better removed than by any other plan of flame, or otherwise.

The evidence of many scientific men showed, that the specification fully described the invention, and that the same might be put into practice by a workman from the information contained in that document. They also spoke of the former modes of singeing lace and fabrics by flames and hot cylinders; that gas appeared peculiarly suited for the purpose; that the use of gas for the purpose was new, and the apparatus, separately, was not the invention; parts of the apparatus were suitable when using other flames. In order to obtain the effect to the fullest extent, the flame of gas must be urged through the meshes as the chimney described does; that other flames had been urged by blowing, and produced a similar result, though not so well; that oil and other flames will not answer so well as gas; that the use of gas allowed of easy regulation as to the intensity of its flame, much more easy than any other flame; this, as well as other causes, made the application of gas highly valuable for the purpose. Evidence was then given by witnesses, to prove the infringement by the defendants.

One witness was a bleacher; was applied to by Jarvis Boot to go into partnership with him. He stated, that he had a gassing machine, and he could not make use of it for want of being able to bleach. He said, he could not carry on the gassing to any extent without being discovered. He said, he would still send lace to the plaintiff to be gassed, to keep open his account, as a blind. The

what discoloured by the operation, it may afterwards be bleached by any of the processes in common use. The operation is generally performed once before the goods are bleached; they are then half-bleached, and the operation repeated, the bleaching is afterwards finished. The above apparatus, or combination of machinery, is conveniently adapted for the purposes of the said invention. But I do not claim the exclusive use of any apparatus, or combination of machinery, except in connexion with, and in aid of, the application of inflammable gas to the purposes above described in this specification.—In witness, &c.

“SAMUEL HALL.”

defendant showed specimens of gassed lace. Another witness spoke of the quantity of gas supplied by meter to the defendants, which was much greater than any requirement of the burners in the house, which could be seen; and that part of the premises was enclosed and boarded up. Another witness spoke to getting on the roof of defendants' premises, and taking off tiles, and seeing a machine similar to the plaintiff's, but did not see any flame, or gas-pipe. Other witnesses spoke to purchasing gassed lace from defendants. Other witnesses spoke to particular descriptions of lace being sent to the defendants and afterwards received back, having all the appearance of gassed lace, which could readily be judged of, and which had not been done at the plaintiff's factory. Other witnesses proved the letting of the house to both defendants, and its being rated in their names.

Mr. Gurney.—May it please your Lordship.—Gentlemen, the first thing for you to consider in this case is, whether this, which the plaintiff claims as an invention, is an original invention,—that is the first question; then, whether it be a useful invention; and, lastly, whether the plaintiff has invented it. Now, I understand, that this process is by no means new; it has been applied long ago in the case of stuffs and bombasines; it has been applied long ago, as has been stated to you, in the case of muslins; sometimes it has been applied by means of the flame of charcoal, in others by means of a red-hot plate. Independent of those two, which have been the only two known to the witnesses called, I can show you further, that by means of flame, produced from other substances, the fibres have been destroyed: and I understand that that has been the case not only with coarser goods, but with netting; it matters not whether the netting be fine or not, for instance, such netting as was often used for mittens or gloves, some coarse goods, and some finer. I understand, that for many years before this patent was taken out by Mr. Hall, or he had ever imagined he had invented anything upon the subject, that the flame of wood and the flame of paper had been used for the purpose of producing this effect.

Now, what is Mr. Hall's invention? Mr. Hall says he is entitled to the monopoly of the use of gas; well, another man comes, and he takes out a patent for a tallow candle, and another for a wax candle, and a third for an

argand lamp. Does Mr. Hall mean to include those in his patent? he has not included them in his specification, so I suppose he does not. Suppose a flame is produced by oil, or alcohol, or alcohol and oil together; I can show you, by producing the instrument in Court and doing it under your eyes, that the destruction of the fibres can be produced just as well by spermaceti oil and alcohol, as Mr. Hall does it with gas; so that this is not an exclusive mode of accomplishing the object. I can show you that it can be done; for what is this?—it is nothing more than flame, whether that flame proceeds from gas or any thing else, it is still flame, and nothing more nor less. Now, flame has been employed long before, that I am enabled to show you; if it has been employed long before, and is to be urged through by means of a current of air, that may be done by a greater or lesser degree of force, by a bellows below, or a chimney placed above. I can show you, it has been usual to employ a bellows; they have obtained some knowledge upon that subject, because my Learned Friend, the Solicitor-General, particularly called his Lordship's attention to this, that he had evidence to produce, by which he could show you, that using charcoal and a bellows to produce a flame, would not produce the effect in question; whether they have succeeded or not, I know not; but I understand, many years ago, flame produced from different substances has been employed in the destruction of the fibres, and that it has had the effect. It will be for his Lordship to determine, whether this gentleman, by any peculiar combination, has secured to himself a monopoly such as he seeks. I shall not be able to prove that gas has been used. I state this thus early for his Lordship's consideration, because if his Lordship should think the proving that would have no effect upon the subject, it would be a waste of time. His Lordship will say, whether that will affect the question.

Lord Chief Justice Abbott.—I am quite clear it will not.

Mr. Gurney.—I state it precisely with that view.

Lord Chief Justice Abbott.—Before I make any further observation on the matter, I will hear your proof.

Mr. Gurney.—I shall be ready to give evidence upon that subject, to show that flame has been employed before, and that it has effected the purpose. If flame has been employed before, and has effected the purpose, I confess

I do not see how Mr. Hall can be entitled to maintain this patent, because he is employing an agent which was not invented by him; the gas he is taking has been in common use, it has been known a considerable time. I submit he cannot be entitled to the monopoly of the use of the flame of gas, because any man who has the use of that may use it as he pleases;* nor do I see how he can be entitled to the patent in question. As to the rest of the case, I do not see upon what evidence the verdict is to be obtained against Jarvis Boot; he had commenced a manufactory in another place, before he went to the High-pavement, his brother had a house there, and before he went there a complete separation was effected; so that they had no communication with one another, and therefore the circumstance of his brother paying for all the gas lights, does not appear to involve him in the consequences of his manufactory; his selling anything that has been gassed by anybody else, would not operate against him; it must be the joint act of the two defendants, which would entitle this plaintiff to maintain a joint action against them: he has no right to maintain an action against them, unless he can show that what was sold was gassed by both in conjunction, and that the act of one was the act of both.

On the part of the defendants some lace was produced singed by various flames, and evidence was given of the previous use of flames for the same purposes.

The Foreman of the Jury prevented the reply.

Lord Chief Justice Abbott.—There can be no doubt, Gentlemen, your verdict must pass against both the defendants.

Verdict for the plaintiff.

Application was afterwards made for a rule to show cause why a nonsuit should not be entered, the invention not being a manufacture under the statute, it was simply the using of one flame for another. The rule was refused. The *Lord Chief Justice* remarking, that no one could know that gas would answer the purpose till he tried, and that a man who tried and succeeded in so improving a manufacture, was entitled to a patent.

* Gas was then made only under patents.

SAVORY *v.* PRICE.

In the Court of King's Bench.—December 17, 1823.

THIS was an action to recover damages for the infringement of a patent granted to the plaintiff, on the 23d day of August, 1815, for a combined neutral salt, or powder, which possesses all the properties of the medicinal spring at Seidlitz, in Germany, and which invention is sold under the name of Seidlitz powder. It was objected to the specification,* that it described processes which were

* The specification was as follows:—

“To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said Thomas Field Savory, do hereby declare that the nature of my said invention, and the manner in which the same is to be performed, is described and ascertained in the following explanation thereof.

“The process for making the Seidlitz powders, as invented and sold by me, the said Thomas Field Savory, at No. 136, New Bond-street. — Recipe, No. 1. Take of subcarbonate of soda twenty pounds, supertartrate of potash twenty-four pounds (avoirdupois weight); dissolve the subcarbonate of soda in twenty-five gallons of boiling water, and add the supertartrate of potash; filter the solution through paper, and evaporate it in a gentle heat until a pellicle appears on the surface; then set it by to crystallize; redissolve the crystals thus formed in six times their weight of boiling water: the solution must again be filtered, evaporated, and crystallized, and afterwards reduced to a fine powder.

“Recipe, No. 2. Take of carbonate of soda one hundred pounds; carbonate of ammonia twenty-five pounds; expose the subcarbonate of soda to a heat sufficiently strong to liquify it; then add the carbonate of ammonia in powder, and with a heat of 212° dry the salt, and pass it through a fine sieve.

“Recipe, No. 3. Take of supertartrate of potash one hundred pounds, mix it with thirty pounds of finely powdered chalk, and add it by degrees to one hundred and sixty gallons of boiling water; stir it for some time, and when the tartrate of lime has subsided pour off the supernatant liquor, and wash the residuum repeatedly with cold water. To the tartrate of lime thus formed add thirty pounds of sulphuric acid, previously diluted with eight times its weight of water; stir the mixture frequently during twenty-four hours; and, after having separated the acid from the sulphate of lime, by means of strong pressure, evaporate it in Wedgwood's dishes, over a sand heat, till a pellicle appears on the surface; then set it by to crystallize: these crystals are to be dissolved in boiling water, filtered through white filtering paper, and again crystallized.

“Each dose of the Seidlitz powders consists of two scruples of Recipe No. 3, finely powdered, and dissolved in half a pint of spring water; to which are added two drachms of Recipe No 1, and two scruples of Recipe No. 2 (previously mixed): they must be stirred together, and taken during the state of effervescence.—In witness whereof, &c.

“THOMAS FIELD SAVORY.”

well known, producing articles which were well known, and then combined the products in making "Patent Seidlitz Powders;" that any person reading the specification would imagine that these complex processes must be gone into in order to produce the result desired. And it was stated by the plaintiff's witnesses, that the modes pointed out in the specification for making the articles described in the first, second, and third, recipes, were not the best for that purpose, nor those which were usually followed. That a person might purchase the separate articles at any chemist's shop cheaper than he could make them by the processes described. The result of the first recipe would be Rochelle salts; the result of the second recipe would be carbonate, formerly called supercarbonate, of soda; and the result of the third recipe would be tartaric acid; but before the date of the patent it was not usual to mix an acid and an alkali to produce an effervescent draught. It was the mixture of these articles which ought to have been claimed, without misleading people by making it appear that three difficult processes were to be first carried on, and which were not the best for making the three articles, which were well known, and separately could not form any right under the patent.

Lord Chief Justice Abbott.—It is the duty of any one to whom a patent is granted, to point out in his specification the plainest and most easy way of producing that for which he claims a monopoly; and to make the public acquainted with the mode which he himself adopts. If a person, on reading the specification, would be led to suppose a laborious process necessary to the production of any one of the ingredients, when, in fact, he might go to a chemist's shop and buy the same thing as a separate simple part of the compound, the public are misled. If the results of the recipes, or of any one of them, may be bought in shops, this specification, tending to make people believe an elaborate process essential to the invention, cannot be supported. The plaintiff must be non-suited.

Person must not describe an elaborate process as essential to the production of an ingredient when it may be bought at a shop in a simple form

SYKES v. SYKES AND ANOTHER.

In the Court of King's Bench.—November 11, 1824.

THIS was an action brought to recover damages from the defendants for selling shot-belts and powder-flasks marked "Sykes' Patent," with a view to show that the articles sold were made according to the plaintiff's patent. For the defendants it was contended, that they had as much right to use the words, "Sykes' Patent," as the plaintiff, he having no valid patent, and one of the defendants names being Sykes; and, further, it was contended, that they had not sold the articles as the manufacture of the plaintiff. At the trial it was shown, that the plaintiff had a patent, but had failed in supporting its validity in consequence of a bad specification, and therefore the patent was generally considered invalid. This action did not therefore depend on the validity of the patent, but on the wrongful use of the words, "Sykes' Patent," the defendants not being patentees, whilst the plaintiff was a patentee, but not of a valid patent. At the trial the jury found their verdict for the plaintiff with damages.

This was an application for a new trial, on the grounds that the declaration stated, that the defendants sold the goods, as and for goods manufactured by the plaintiff; and the evidence was, that the persons to whom they were sold knew that the goods were manufactured by the defendants.

Lord Chief Justice Abbott.—I think the averment in this declaration, to which the present objection is taken, was substantially proved by the facts in the case. It is perfectly clear, that the defendants stamped the articles of their own manufacture with the mark, "Sykes' Patent," for the purpose of representing them as the manufacture of the plaintiff; and though they did not in their own persons sell the goods as and for goods manufactured by the plaintiff, still they did sell them to third persons in order that they might re-sell them as goods manufactured by the plaintiff, and those third persons did, in fact, so re-sell them. In my opinion, that was, in substance and effect, a selling by the defendants of their own goods, as and for goods made by the plaintiff; and, therefore,

that the declaration was supported by the evidence, and the verdict ought not to be disturbed.

The rest of the Court concurred.

Rule refused.

BLOXAM AND OTHERS (ASSIGNEES OF HENRY AND SEALY FOURDRINIER, BANKRUPTS) v. ELSE.

In the Court of King's Bench, before Lord Chief Justice Abbott and a Special Jury—January 18, 1825.

Mr. Attorney-General (Copley), Mr. Marryat, Mr. Gurney, Mr. Curwood, and Mr. Tindal, for the plaintiffs.

Mr. Scarlett, Mr. Brougham, and Mr. Alderson, for the defendants.

This was an action brought against the defendant for infringing a patent held by the plaintiffs for making paper. The declaration consisted of many counts, and the defendant pleaded not guilty. The patent was granted to John Gamble, April 20, 1801, for fourteen years, for an invention communicated to him by a foreigner residing abroad, for "A machine for making paper in single sheets without seam or joinings, from one to twelve feet and upwards wide, and from one to forty-five feet and upwards in length," to which a specification was enrolled in the proper time, and further letters patent were taken for improvements in June 7, 1807. The periods of these patents were extended by Act of Parliament fifteen years after the 14th August, 1807, thus making the grant for twenty years in all from the first grant; and the Act required, that a new specification should be enrolled in order that the machine, in its improved state, should be described.* At the trial many objections were made to

* As the question did not turn on the specifications, but on the title of the patent, it is not necessary to give them here. In order that this invention may be understood by the general reader it may be desirable to state, that previous to this invention (which was made in France, but not matured till it was brought to this country), paper was made by hand, one sheet at a time, by dipping a wire sieve into a vat, or tub, containing pulp, the operation requiring considerable skill of the workman; and the sheets as they were made were placed to drain on felt, and were pressed between felts. The invention for which this patent was granted, so far as the general principle of it is concerned, is very simple, though it required great skill and ingenuity in arranging the

the patent; first, that the patent was assigned to, or held in trust for, more than the number of five persons, which was contrary to the proviso in the letters patent. That the specifications would mislead; that much of the second specification was invented by Mr. Donkin for the patentees.

Mr. Scarlett objected, that by the assignees having the privilege in question assigned to them in trust for more than five persons, the whole thing was at an end; as by the sixth section of the Act above cited, as well as by the patent itself, if the privilege became vested in, or in trust for, more than five persons, otherwise than by devise or succession, the whole privilege was to be at an end. Now, the property had become vested in the assignees in trust for more than twenty creditors; and this being a private Act of Parliament, which was to be considered only in the light of a conveyance, the parties must take it with all its imperfections; and the only two cases in which the Legislature had allowed it to be held by or for more than five persons were pointed out, and this was not either of them; and unless the words, "otherwise than by devise or succession," were to be considered as surplusage, the construction contended for must prevail. Besides, if the assignees had the right, they could not carry on trade, their trust being to make a dividend of the bankrupt estate; and could it be contended, that if there were 100 creditors, each might by his own authority grant licenses to paper-makers to use these machines?

Lord Chief Justice Abbott.—The creditors could not do so, but the assignees might.

Mr. Brougham and *Mr. Alderson*, on the same side,

details for carrying it into practice; and for this practical carrying out of the invention this country is indebted to Mr. Donkin, who has since become very eminent as an engineer. The principle on which the machinery of the patent is constructed consists of a continuous moving surface of wire sieve cloth carried by rollers, and in place of dipping the wire cloth into the pulp, and raising it out by hand, as in hand paper making, the pulp in this machine flows over from the vat on to the endless travelling surface of sieve wire in a thin film; the water running from the fibrous matter leaves the pulp in the form of paper in a continuous sheet, which, at the end of the machine, is lifted off the wire and pressed between rollers, and then goes through other processes of pressing, when it is received on to a reel, and then finished by the ordinary processes of hand paper making.—W. C.

cited the case of *Hesse v. Stephenson*,* and adverted to the judgment of Lord Alvanley in that case.

Lord Chief Justice Abbott.—Whether Lord Alvanley entertained any doubt on this point I cannot tell; but I entertain none; and I am clearly of opinion that the privilege passes to the assignees.

Several witnesses gave evidence to the sufficiency of the new specification, that the first specification was uncertain and ambiguous, because there were many Gallicisms in it. The French word, *vis*, was used for a screw; and there was said to be an acclivity of two *centimetre*, and the words *vis de pression* were used for an adjusting screw, which English workmen would not understand; that the new specification, with the drawings, were fully sufficient for a workman to work from and produce the machinery, and that the patent had been infringed by the defendant.

Mr. Gamble, the patentee, proved, that he was, at the time of taking out the patent, acting as trustee for M. Didot, who was a Frenchman.

Mr. Scarlett.—Do you not know from Messrs. Fourdrinier that, by a deed between them and Didot, he retains some interest in the patent?

Lord Chief Justice Abbott overruled this question, stating, that the witness could not speak to the contents of the deed unless it was put in.

Mr. Gamble stated, that he was acting as trustee to Didot at the time of taking out the patent, and that England was at war with France at that time.

Mr. Scarlett.—The patent is void, being held in trust for an alien enemy.

Lord Chief Justice Abbott.—I will reserve that point.

For the defendant it was contended, that the patent was bad in consequence of the uncertainty of the first specification; and evidence was called to show, that many of the improvements contained in the second specification were invented by Mr. Donkin, without which the invention was useless. Mr. Donkin being called, proved these facts, and that he was employed by Messrs. Fourdrinier and Gamble to bring the machine to perfection, was paid by them for so doing, and was acting as their servant.

The Attorney-General (Copley) in reply, contended, that these were the patentees' inventions, and that Mr.

* *Ante*, p. 186.

Donkin was employed by them to carry their ideas into effect in the best manner.

Lord Chief Justice Abbott.—An inventor of a machine is not tied down to make such a specification as by words only would enable a skilful mechanic to make the machine, but he is allowed to call in aid the drawings which he annexes to the specification; and if, by a comparison of the words and drawings, the one will explain the other sufficiently to enable a skilful mechanic to perform the work, such a specification is sufficient. *Description in Spec. may be aided by drawings which together must make invention evident.*

By the sixth section of the Act, the new specification was to be taken as a substitute for the former specifications, and if good, that would cure all defects and omissions in the former ones.

His Lordship left it to the jury to say, whether it was an useful invention, and whether the defendant had infringed the patent.

The jury found for the plaintiff. *His Lordship* gave the defendant's counsel leave to apply to enter a nonsuit on the point reserved.

BLOXAM AND OTHERS (ASSIGNEES, &c.) v. ELSE.

In the Court of King's Bench, January 27, 1825.

Mr. Scarlett now moved for a nonsuit. He stated his first ground to be, that when Gamble took out the first patent for M. Didot, who was at that time an alien enemy, that fact was not disclosed; it was a fraud on the Crown.

Lord Chief Justice Abbott.—We all think this a point worthy of consideration.

Mr. Scarlett.—The second point is, that this privilege could not be assigned for the benefit of more than five persons, under the patent nor under the private Act of Parliament.

Mr. Justice Bayley.—Does not the Act state, that the right shall not be vested in more than five persons or their representatives?

Mr. Scarlett.—Yes, my Lord; and that it shall not be held in trust for more than five persons. Now the assignees are trustees for the whole body of creditors,

and, in many respects, the assignees do not represent the bankrupt: and the Act goes on to add, "otherwise than by devise or succession:" and if, under these words, the right passed to the assignees, it would be a great question whether the assignees could carry on a trade for the benefit of a large body of creditors. The only case on this subject is *Hesse v. Stephenson*.*

Lord Chief Justice Abbott.—What do you understand by the words, "or succession?"

Mr. Scarlett.—It must be taken to mean, coming in as an administrator by succession, in contradistinction from coming in by devise as executor.

Lord Chief Justice Abbott.—Looking at the words of the private Act, and the reference to the 6th Geo. I., and construing the whole of the objects of the Legislature together, I am of opinion that this clause only applies to such assignments as are the act of the party, and does not apply to assignments by act of law.

Mr. Justice Bayley.—This right may go to five persons or their representatives. It was in Messrs. Fourdrinier, who were under the limited number, five, and it passed, by a statutable assignment, to the assignees, who are their representatives.

Mr. Justice Holroyd.—I think that the assignees are the representatives of the bankrupts, and that they may sell the right for the benefit of the estate.

Mr Justice Littledale.—I am of the same opinion.

Mr. Scarlett.—Another thing to be observed is, that the first patent was for a machine to make paper from one to twelve feet wide. Now it appeared from the evidence, that without considerable alterations, the same identical machine could not make paper of both those widths, and, therefore, that patent fails, as the machine will not form what it professed to do; and, if the first patent fails, I contend the whole case fails with it. Another head of objection is, that four out of five of the improvements mentioned in the second specification were invented by Mr. Donkin. For the plaintiffs, it was contended, that he was paid to improve the machine, and, therefore, for that purpose, he was acting as the servant of Messrs. Fourdrinier. In the case of *Barber v. Walduck*, tried at Lancaster in the summer of 1823, before Mr. Justice Holroyd, which was an action for the infringement

* *Ante*, p. 186.

of a patent for an improved manner of making hats, the plaintiffs were hat manufacturers, and the plaintiffs' counsel opened a strong case; but his first witness, who was one of the plaintiffs' men, proving that he invented the improvement, which was the subject of the patent, while employed in the workshop of the plaintiffs, the Learned Judge directed a nonsuit.

Mr. Justice Bayley.—Was that person employed by them for the express purpose of devising improvements?

Mr. Scarlett.—I believe not, my Lord; but, at any rate, Mr. Donkin was not acting as the servant of Gamble, who is one of the patentees, but of the Four-drainers only.

Lord Chief Justice Abbott.—My present doubt is, whether, by the latter part of the sixth section of the private Act, the defects (if any) of the earlier specifications are cured by the new one.

Mr. Scarlett.—I have further to object, that the first specification is bad, because there are several words in it not English; such as, *vis de pression*, *vis de repulsion*, and *vis de reaction*, for different screws; it was, however, from the drawings annexed to this specification, that a skilful mechanic might make the machine, but I submit, that as a specification could not be made by drawings alone, it must be made in apt words, intelligible to mechanics; and if this specification were held good, everything mentioned in a specification might be called by a wrong name, and drawings referred to for a whole. Even the scale appended to the drawings was a scale of *pieds* and *pouces*, terms unknown to English mechanics.

Lord Chief Justice Abbott.—But it was proved that the names to the scale were quite immaterial; for with relative proportion, which was all that was wanted, the scale would have been as good if there had been no names at all.

Mr. Scarlett.—If any part of the specification is bad, the whole is so.

Lord Chief Justice Abbott.—Some of the points deserve serious consideration.

The Court granted a rule *nisi* for a nonsuit or a new trial.

**BLOXAM AND OTHERS (ASSIGNEES, &c.)
v. ELSE.**

In the Court of King's Bench, February 3, 1827.

THIS case now came on to be argued on the rule, for a nonsuit, or for a new trial, granted in Hilary Term, 1825. The first objection relied on by the defendant's counsel was, that the patent being in the hands of the assignees, they represented the creditors, and therefore the patent was in trust for more than five persons. The second objection to the validity of the patent was, that the patentee, in his petition for a patent, had stated, that he was in possession of a machine for making paper in single sheets without seam or joining, from one to twelve feet and upwards wide, and from one to forty-five feet and upwards in length, the method of making which machine had been communicated to him by a certain foreigner residing abroad. And by the Act of Parliament for extending the patents, it was enacted, amongst other things, that every objection which might have been made to the validity of the said letters patent, and to the sufficiency of the specifications enrolled, as aforesaid, should be of the like force and effect in law, in any action or suit brought by virtue of that Act, as such objections respectively would have been if that Act had not been passed; and if, also, the specifications to be enrolled, as required by that Act, had been enrolled instead of the former specifications, respectively, except only as to the extension of the said privileges for the further term of years hereby granted.

By the seventh section of the Act it was provided, that if H. Fourdrinier, S. Fourdrinier, and Gamble, their executors, &c., or any person, or persons, who should at any time during the said term of fifteen years, have, or claim, any right, title, or interest, in law or equity, in, or to, the power, privilege, or authority, of the sole making, using, and vending, the said improved machine, should make any transfer or assignment, or pretended transfer or assignment, of the said liberty or privilege thereby vested in H. Fourdrinier, S. Fourdrinier, and Gamble, their executors, &c., or any share, or shares, of the benefit or profits thereof, or should declare any trusts thereof to, or for, any number of persons exceeding the number of five, or should divide the benefit of the liberty or privileges thereby vested in H. Fourdrinier, S. Fourdrinier, and J.

Gamble, their executors, administrators, and assigns, into any number of shares exceeding the number of five; or should do, or procure to be done, any act whatsoever during such time as such person, or persons, should have any right or title, either in law or equity, which should be contrary to the true intent and meaning of an act of the 6th G. I. c. 18; or in case the said power, privilege, or authority, should at any time become vested in, or in trust for, more than the number of five persons, or their representatives, at any one time, otherwise than by devise or succession, reckoning executors and administrators as and for the single persons they represent as to such interest as they are, or shall be, entitled to, in right of such their testators, or testator, then, and in every of the said cases, all liberties and advantages whatsoever thereby vested in H. Fourdrinier, S. Fourdrinier, and Gamble, their executors, administrators, and assigns, should utterly cease, determine, and become void, any thing therein contained to the contrary thereof notwithstanding.

At the trial the *Lord Chief Justice* was of opinion, that an assignment under a commission of bankrupt was not within the meaning of the Act of Parliament, and he overruled the objection. It appeared by the specification of the patent taken out in 1801, that the machine then invented was so constructed as to be capable of producing paper of one definite width only, and in order to vary the width a new machine was required. By the subsequent improvements, however, one and the same machine was capable of producing paper of various widths, it was objected, that as the person who petitioned for the first patent had represented to the Crown that he was in possession of one machine capable of making paper of different widths, which was not true, the first and subsequent patents founded upon it were void.

Mr. Scarlett contended, that as the first patent was for a machine for making paper in single sheets, without seam or joining, from one to twelve feet and upwards wide, and from one to forty-five feet in length, that imported a machine which, at the pleasure of the possessor of it, would make paper from one to twelve feet wide; and if that were so, then the question which ought to have been left to the jury was, whether the said identical machine for which the first patent was taken out

was capable of making paper of different widths. Upon the evidence it clearly was not. Assuming that, by additions, regulations, and adjustments, not suggested in the specification of the first patent, a machine upon the same principle as that described in the specification might be constructed capable of making paper of different widths, still it was perfectly clear that the identical machine therein described was not capable of making paper of different widths. Now, a patent for a machine is void, if the machine will not answer the purpose for which it is intended without some addition, adjustment, or alteration, which the mechanic who makes it must introduce of his own invention in order to make it work; *The King v. Arkwright*.* But this patent is void upon another ground; for the interest in the patent became vested in the assignees of the bankrupt in trust for more than five persons. (*Mr. Justice Bayley*.—Are not the assignees of a bankrupt his representatives?) They are the representatives of the creditors, and not of the bankrupt. The word, representatives, means executors or administrators. The words, “otherwise than by devise or succession,” if they have any meaning, must import that every species of devolution, except by devise or succession, whereby the privileges granted to the patentee shall become vested in, or in trust for, more than five persons, shall be void. That is the true meaning of the clause in the Act of Parliament, unless some other word be introduced into it. In *Hesse v. Stephenson*,† the patentees’ interest might, by the terms of the letters patent, be assigned to any number of persons not exceeding sixty. A bankruptcy occurred. It was objected, that the interest of the patentees would not pass to the assignees under the commission; but it was held, that whatever the bankrupt could assign, the assignees would take, and as the creditors did not exceed sixty, the assignees might take the interest in the patent. The ground of the decision was, that the number of creditors did not exceed that mentioned in the Act of Parliament. Here the creditors do exceed the number specified in the Act.

Lord Chief Justice Abbott.—Looking at the Act of Parliament, and looking at the usual clause in letters patent, and finding that in each of them there is a refer-

* *Ante*, p. 53.

† *Ante*, p. 186.

ence to the statute, 6 George I. c. 18, and construing the whole clause, either in the letters patent, or in the Act of Parliament, with reference to that which appears to my mind to be plainly and manifestly its object, it is my opinion, that the whole clause is confined to assignments by acts of the party, and does not apply to any assignment or transfer by operation of law, and, consequently, that it will not apply to an assignment under a commission of bankruptcy.

Mr. Justice Bayley.—I have no doubt upon the construction of this clause. I disclaim all right in the Court to introduce or exclude words from this clause, but I think we are bound to construe the words which the clause contains, and that is all which I desire to do. The words in this clause are, "In case the power, privilege, or authority, shall at any time become vested in, or in trust for, more than the number of five persons, or their representatives, at any one time, otherwise than by devise or succession (reckoning executors and administrators as and for the single persons they represent)." There are not only the words, "the number of five persons," but there are the words, "or their representatives;" and those words, "or their representatives," are entitled to have some meaning; and the words, "otherwise than by devise or succession," will apply to the words, "or their representatives," as well as "the number of five persons." Now the question in my mind is, what does the Act mean by "their representatives?" If the assignees of a bankrupt are the representatives of a bankrupt, this patent is not vested in them, otherwise than this Act of Parliament says it may be vested. It was vested in the Fourdriniers, the bankrupts; if they did not exceed the number of five, the bankruptcy, by a statutable transfer, has made the assignees of the bankrupt the representatives of the bankrupt, and that is the construction which, in my opinion, these words are entitled to receive.

Mr. Justice Holroyd.—I think that in this case the assignees of the bankrupt are to be considered as the representatives of the bankrupt, and that they had his property as his representatives, and not as the representatives of the creditors. It appears to me, that under the Act of Parliament, the patent is not void, though the creditors may amount to more than five.

Mr. Justice Littledale.—It seems to me that the words of the Act of Parliament do not apply to a transfer by operation of law. The assignees represent the bankrupt by operation at law. It does not appear to me, therefore, that a transfer of the property to the hands of the assignees is at all within the meaning of this clause.

It was contended on the part of the plaintiffs, that the recital in the patent did not import that paper of different widths was to be made by one and the same machine, but that any width between one and twelve feet might be obtained by different machines, each adapted and constructed to the width required; that the patent was merely for an invention of such a character, that a machine might be constructed capable of making paper of any width between one and twelve feet.

Lord Chief Justice Abbott.—I think one of the objections which has been taken in this case is valid, and must prevail; and, consequently, it is not necessary to give any opinion upon the others. By the patent it appears, that the patentee had represented to the Crown that he was in possession of a machine for making paper in single sheets without seam or joining, from one to twelve feet and upwards wide, and from one to forty-five feet and upwards in length. Upon this representation the patent is granted. The consideration of the grant is the invention of a machine for making paper in sheets of width and length varying within the limits designated. If any material part of the representation was not true the consideration has failed in part, and the grant is consequently void; and a defendant in an action for infringing the patent has a right to say that it is so. Now, I think it impossible to say that both width and length are not important parts of this representation. It may be, that if the representation had mentioned length only, a patent would have been granted for the invention, which, in its improved state at least, is eminently useful in a very important manufacture, as saving both time and labour in a very considerable degree. But although I may think this probable, I am not at liberty to pronounce judicially that it would have been so. I must therefore see whether the representation was true. It has been contended, in support of the patent, that the recital does not import that paper of different widths was to be made by one and the same machine, but may mean, only, that the width

Patent void if any material part of consideration fail as for instance in this case where paper was to be manufactured in one & the same machine of various lengths & widths within certain designated limits but machine was not capable of making such variable lengths & widths.

may be obtained by different machines, each adapted and constructed to the extent required. But I think this construction of the recital cannot be allowed, for it is a different thing whether a manufacturer must supply himself with several different machines, or with one only, capable alone of accomplishing all the purposes to be obtained by many. And if the width is not to be considered as material, the length cannot be so considered; and then the representation will only be, that he has invented machines, by the use of several of which, paper of various widths and lengths may be made without seam or joining. And this will be at variance with all the specifications, which plainly show that whatever was done was to be done by one and the same machine. Then, if the representation be (as I think it is), that paper of various widths may be obtained by one and the same machine, I must look to the evidence to discover whether the patentee was possessed of a machine, or of the invention of a machine, capable of accomplishing this object. And, unfortunately, the evidence shows that he was not. I say unfortunately, because it is to be lamented that the advantage of great ingenuity, labour, anxiety, and expense, should be lost to those who have bestowed them. The patentee was at the time possessed of one machine, and one only, and this adapted to one degree of width, and one degree only. And he was not then possessed of any method by which different degrees of width might be manufactured by that machine, or by any other. I think it may be admitted, that by subsequent improvements and discoveries a machine was obtained capable of making paper of width varying within certain limits, though, probably, not extending to more than half the width mentioned in the patent. The specification enrolled under the Act of Parliament appears sufficiently to describe such a machine, and a mode of adjusting it to different degrees of width within the limits of its own breadth. The first specification is evidently confined to one width only. Then, can the last specification be taken to furnish an answer to the objection? Now, supposing the Act of Parliament so far substitutes the last specification in the place and stead of the former specifications as to remove all former objections to them, to which the latter is not open, still it cannot so far operate retrospectively as to enable the patentee to say, that he pos-

If a man describes an invention in a patent, it is not to be taken as containing a promise that the invention must have been made as an original invention of the

later

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cannot act retrospectively*
sessed in 1801, or had then discovered, or invented, a machine which it appears that he did not possess, and had not invented or discovered until a much later date. If the first machine had been capable of working at different degrees of width, though clumsily and imperfectly, the latter machine would have been an improvement of it; but as the first, whether considered as existing actually in theory, was wholly incapable of this; the latter machine does not in this respect furnish an improvement of any thing previously existing, but an addition of some new matter not existing or known at the date of the first patent, and which, nevertheless, is therein represented as existing or known, and which cannot but be considered an important part of the representation then made and of the consideration of the grant. If the first grant was void, the subsequent grants by the patent and by the statute, must fall to the ground, as having nothing to support them. I think myself compelled, therefore, to yield to this objection. If, however, the law in this respect should not be in the opinion of my learned brothers, that which I own it has appeared to me to be, still there must be a new trial, because the question ought to have been left to the jury whether the machine as originally constructed was capable of doing that which the patentee professed it should do, namely, make paper of different widths. I may say, that I did not leave that question to the jury because it appeared to me to be clear upon the evidence, that the machine, as originally constructed, would not make paper of different widths. The rule for a new trial must therefore be made absolute.

Thus, in fact, declaring the patent void.*

BRUNTON v. WHITE.

In the Court of King's Bench.—1826.

Mr. Rotch moved to change the venue in this case from London to Lancashire, on the usual affidavit. The cause of action was the infringement of certain letters patent, granted to the plaintiff for an improvement in mechanism.

* In the present state of the law, if a similar case arose the patent might be amended and rendered valid by disclaimer and alteration.—
W. C.

Per curiam. We know of no precedent for this application, and unless some instance is cited in which the Court has changed the venue where the cause of action was the infringement of a patent, we cannot grant the present motion.

Mr. Rotch said, he could not find any authority for the application, and therefore took nothing by his motion.

Rule refused.

THE KING v. HADDEN.

In the Court of King's Bench, before Mr. Justice Bayley and a Special Jury.—January 19, 1826.

THIS was a *scire facias* to repeal a patent granted to *Mr. Hadden*, on the 12th day of December, 1818, for an improvement in preparing, roving, and spinning of wool. It was objected to the specification,* that it did not

* The specification was as follows:—

“To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said *James Hadden the younger*, do hereby describe and ascertain the nature of my said improvement, together with an account of the manner in which I have performed the same with the greatest success; that is to say: My said improvement doth consist in preparing wool (by which technical expression I mean to imply drawing wool, after it has been carded, combed, or otherwise brought into a fit state for drawing), as also to rove and spin all or either the same, while in a heated state. Various methods may be found of applying heat to wool during all or either of the three said processes of preparing, roving, and spinning. That which I have adopted, and which I have found the most easily and perfectly to procure the advantages desired, has been the introduction of cast-iron heaters into the retaining rollers used in the said processes, by always using three of the said rollers, and by leading the wool over half the circumference of each of the two upper of the said heated rollers, thereby allowing it to pass over a sufficient length of heated surface to become thoroughly warmed without retarding the other processes it is undergoing at the time.

“*Description of a Drawing which is annexed for further elucidation.*

“*Fig. 1*, *h*, the heater, slipt partly on to the axis of the retaining roller, *a*. *c, c, c*, the axis of the said roller. The roller, *a*, is closed at the end, *a, a*.

“*Fig. 2*, *A, B, c*, represent three retaining rollers, and *w w, w w*, the passage of the wool; the two upper rollers, *A, B*, are represented with their heaters: the lower roller, *c*, does not require to be heated.

describe the quantity of heat; and, further, that the invention was not new, a person at Kidderminster having made a machine in 1815. The objection against the specification was overruled, the specification describing the manner in which the heat was to be applied, the quantity of heat would follow the putting the description into practice.

It was clearly proved by witnesses, that the invention was old; and the only point of importance decided, was, whether a witness could give evidence of what he had done before the patent, by speaking to a drawing of a machine, and not the machine itself. On a drawing being offered to a witness to say whether that represented the machine made and used before the patent,

Mr. Attorney-General (Copley) for the defendant, objected, that, as the drawing was not made by the witness, he ought not to look at it, but should describe the machine he had constructed; for that this was a lumping way of leading the witness.

Mr. Gurney.—Plans are always put into the hands of witnesses who did not draw them.

Mr. Scarlett.—A plan of a place is certain; but this is exactly the same as if the counsel described a machine, and then said to the witness, was that what you made?

Mr. Justice Bayley.—I think the witness may look at the drawing, and you may ask him, whether he has such a recollection of the machine he made as to be able to say, that that is a correct drawing of it.

Verdict for the Crown, and the patent was declared void.*

"N.B. The heaters may be introduced into drawing or carrying rollers with nearly the same effect.

"The application of heat to wool, for the better preparing, roving, and spinning, all or either the same, being to the best of my knowledge and belief entirely new, and never before practised in these kingdoms, I am desirous to maintain this my exclusive right and privilege.—In witness, &c.

"JAMES HADDEN."

* On the same day the case of *The King v. Lister* was tried; Lister having taken a patent after that of Hadden, and enrolled a specification containing the same invention as that disclosed in Hadden's specification, the two patentees opposed each other, and by cross suits repealed both patents by the same evidence.—W. C.

THE KING v. FUSSELL.

In the Court of King's Bench, before Lord Chief Justice Abbott and a Special Jury.—June 20, 1826.

Mr. Attorney-General (Copley), Mr. F. Pollock, and Mr. Rolch, for the plaintiff; and Mr. Scarlett and Mr. Tindall for the defendant.

This was a proceeding, by writ of *sci. fa.*, to repeal letters patent granted to John Fussell, the 11th day of August, 1824, for "an improved method of heating woollen cloth for the purpose of giving it a lustre in dressing."*

* The specification was as follows:—

"To all to whom these presents shall come, I, John Fussell, of Mells, in the County of Somerset, Edge Tool Maker, send greeting.—Whereas, &c. —Now know ye, that in compliance with the said proviso, I, the said John Fussell, do hereby declare, that the nature of my said invention of an improved method of heating woollen cloth for the purpose of giving it a lustre in dressing, and the manner in which the same is to be performed, is fully described and ascertained as follows (that is to say): My invention consists in an improved method of applying steam to the heating of woollen cloth (that is to say): After the cloth is properly dressed, either by gig machine or by hand dressing, I roll it upon a hollow roller or rollers, so contrived as to receive or enclose the list or forrel, by which process the stains or wrinkles, which are usually produced by rolling the cloth upon the solid roller or rollers in common use, are avoided. I then place the cloth on end, for the purpose of shifting as much of the water as is usually shifted previously to racking. In the next place, I submit the cloth to the action of steam for about three hours, more or less, according to circumstances, either by suspending it over water in a common furnace, or by placing it in any apparatus contrived for the purpose, and capable of receiving one or more rolls of cloth at a time, or by any other convenient and suitable means in which steam is or may be raised in the usual ways, or conveyed into it from a detached or separate generator and applied to the cloth, or, if desirable, the steam may be introduced into the roller or rollers, care being taken to prevent the cloth from being stained by the condensed steam from the forrel. The proper temperature of the steam to be applied to the cloth may be stated at considerably below the boiling point, but the exact temperature must be regulated by the judgment of the operator according to the lustre required, and, in some measure also, to the capability of the colour to withstand a high moist temperature. When it is desirable to give to the cloth a very high lustre, it may be obtained by shifting less of the water than is usually shifted previously to racking and raising the steam to a greater degree of heat than required to produce a less degree of lustre. In this case, however, the roller on which the cloth is wound should be made to revolve slowly during the process of steaming by mechanical or other means.—

F F

Mr. Attorney-General addressed the Court and jury. The Learned Gentleman stated that this was a proceeding to repeal the patent of Mr. Fussell; that there were several objections; first, that the invention was not new, it having been practised by Mr. Wilkins, at Twerton Mills, before the date of the patent, and that several witnesses would be called to prove the public working of the invention by steam. The circumstances were these:—Mr. Wilkins, having heard of Mr. Daniell's patent for heating rolls of cloth in hot water, imagined that he could accomplish the same end by the use of steam, and that it would be no infringement of Mr. Daniell's patent; that Mr. Wilkins worked for some time by means of steam; that a question arose whether he was not infringing Mr. Daniell's patent; and, upon consulting several eminent counsel, he was advised that the process was, in fact, the same as secured by Mr. Daniell's patent. The consequence was, that Mr. Wilkins interested himself in that patent, and ultimately he became a partner of Mr. Daniell, and then used hot water, and not steam. Subsequent to this, Mr. Fussell took out his patent for identically the same thing which Mr. Wilkins had worked extensively and publicly, this would be proved by many witnesses. Another objection was, that Mr. Fussell's using steam was only a pretence, and not an invention for which a patent could be granted, seeing that Mr. Daniell's patent was for hot water; that Mr. Daniell's patent process, which was very valuable, consisted of rolling woollen cloth and submitting it to a process of hot water.* Mr. Fussell's specification proposed to roll his cloth on rollers in a wet state, and then place them in a vessel containing water, but he did not immerse the rolls of cloth in the water, but depended on the steam which rose from the water to obtain the requisite heat. It would be evident, therefore, that the water which the cloth contained would become heated by the steam, and the effect produced would be by hot water; and witnesses would prove that such was the fact, and that the use of steam was difficult to practise and less useful than using

In witness whereof, I, the said John Fussell, have hereunto set my hand and seal, the ninth day of October, in the year of our Lord one thousand eight hundred and twenty-four.

"JOHN FUSSELL."

* See Daniell's specification, page 453, *post*.

hot water. Another objection was, that the specification proposed to use hollow rollers, the nature and construction of which it was impossible for any person, however well informed on such subjects, to understand how the same was to be accomplished.

Mr. F. Pollock then put in the specification of *Mr. Fussell's* patent.

Lord Chief Justice Abbott.—It will be considered as in proof.

Mr. Attorney-General.—I apprehend, my Lord, upon the very face of this specification, that it is defective in the point to which I before called your Lordship's attention. It says:—"After the cloth is properly dressed, either by gig machine or by hand dressing, I roll it upon a hollow roller or rollers, so contrived as to receive or enclose the list or forrel; by which process the stains or wrinkles, which are usually produced by rolling the cloth upon the solid roller or rollers in common use, are avoided." So contrived as to receive or enclose the list or forrel,—without pointing out the particular construction or the particular contrivance, or how it is to be done; and I protest at this moment, after having examined it, in conjunction with my Learned Friends, I have not the least idea of the mode in which it is to be done. It says, "so contrived," without pointing out the mode. I apprehend that that is a fatal objection to this specification.

Mr. Scarlett.—The objection lies upon the surface. I have no doubt that men of science will say, the moment a suggestion is made, it is very easily accomplished. The merit is in the suggestion itself.

Mr. Attorney-General.—To men of science many things may be intelligible, and, by means of their science, they may carry it into effect; but the specification must show how it is to be done. *Mr. Brunel* might do it one way, *Mr. Millington* another way. The patentee is bound to say in which way he does it.

Lord Chief Justice Abbott.—The particular contrivance is not set out, and, from reading it, I have not the least notion what it is. But I have great difficulty in saying that I can take upon myself to determine it, because, if persons acquainted with the manufacture would say that there would be no difficulty in saying how the roller could be contrived, that would be sufficient; but if a

It seems right to state the particular means for carrying invention into effect. I do not leave public to make experiments.

man must make experiments to ascertain that, it would be insufficient; a patentee is not to put persons on the trial of experiments, he is to tell them how it is to be done.

Mr. Attorney-General.—It is a hollow roller, “so contrived —”

Lord Chief Justice Abbott.—“So contrived as to enclose the list or forrel.” If the mention of that is sufficient, though I do not understand it, the specification may be good; but if a man is to make experiments, it is not sufficient. The patentee must tell all he knows, and not leave it to conjecture.

Mr. Attorney-General.—So that an ordinary workman may understand it?

Lord Chief Justice Abbott.—A person of ordinary skill in such matters. I do not know how it will turn out when you come to call witnesses.

Professor Millington was then called, who stated that it was impossible to know what was meant by the specification. He was intimately acquainted with the manufacture of woollen cloth; that the selvages were the longitudinal edges; and that the forrel were the transverse edges or ends of the cloth; that he could not see how a hollow roller could be contrived to enclose the forrel and the selvages; had thought over the subject for many days; had suggested various views on the subject, but all would fail of accomplishing the end suggested by the specification; did not know how to do it now.

The witness pointed out how steam heated the water contained in a roll of cloth, and, on being heated, it would act in the same way as the hot water of Daniell's patent. It would be the hot water which would accomplish the end, not the steam; the steam would act to heat the water, beyond that it would do nothing; and, in fact, the hot water performed the process.

Mr. Scarlett was cross-examining the witness on the question of using steam and hot water, when

Lord Chief Justice Abbott observed,—Had you not better direct your attention to the other part of the case, as to the roller?

Mr. Scarlett.—I do not see how this could be affected by evidence.

Lord Chief Justice Abbott.—I own it strikes me so.

Mr. Scarlett.—We contend that our patent would be

infringed by any invention of a roller that will answer this purpose. We took it out for a hollow roller that would have the effect of enclosing the forrel. If we have failed in that, your Lordship will say so. We conceive the patent will be violated by any description of roller to produce that effect.

Lord Chief Justice Abbott.—I must say that I consider the specification insufficient. He ought to say how it was contrived. I was willing to wait to see if any person could say it was sufficient; but when a man of science comes and says it would require a great deal of contrivance to make this, I consider it insufficient. It is not for a man to try experiments. It is not for men such as I am, but men of competent skill. *He ought to be obliged to know patent work without his making experiments*

Mr. Scarlett.—If your Lordship puts it upon the construction, in point of law, I am satisfied.

Lord Chief Justice Abbott.—That is the way I put it. I put it on the investigation. I apprehend the specification is not sufficient.

His Lordship directed the Jury to find their verdict for the Crown upon the issue respecting the insufficiency of the specification, and dismissed them in respect to the other pleas.

Verdict for the Crown accordingly, declaring the patent void.

THE KING v. DANIELL.

In the Court of King's Bench, before Lord Chief Justice Abbott and a Special Jury.—June 13, 1827.

THIS was a writ of *sci. fu.* to repeal the letters patent granted to Joseph Clisild Daniell, the 17th day of July, 1819, for "Certain improvements in dressing woollen cloth, also in preparing and using wire cards as applicable to that purpose."*

* The specification was in the following words:—

"To all to whom these presents shall come, I, Joseph Clisild Daniell, of Frome, in the County of Somerset, Clothier, send greeting.—Whereas, &c.—Now know ye, that in compliance with the said proviso, I, the said Joseph Clisild Daniell, do hereby declare, that the nature of my said invention, and the manner in which the same is to be per-

Read

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Mr. Attorney-General (Scarlett), Mr. Tindall, and Mr. Russell, for the Crown ; Mr. Brougham, Mr. F. Pollock, and Mr. Rotch, for the defendant (the patentee).

formed, are particularly described and ascertained in and by the drawings hereunto annexed, and the following description thereof ; (that is to say :) These improvements consist of three principles.

"The first principle is the grinding, or reducing the extremities or ends of the wires or teeth of cards (being implements of trade, composed of wire set in leather), used for the purpose of dressing or raising the piles on woollen cloths to a picked point, or reducing them, as tending or inclining to a picked point, which I perform by means of a roller fixed on an axletree, made smooth and true on its surface, about eighteen inches diameter, and about six inches longer than the longest card required to be pointed or ground ; the said roller to be covered with wire card, or what is by card makers called filletting, such as is used on engines for scribbling wool, which filletting, when fastened by nailing round the said roller so as to cover the surface thereof, I stuff so as nearly to fill the interstices or spaces between the wires or teeth of the said filletting with a mixture of grease and fine gravel emery, or any other fine sharp gravel. The said roller I set in motion, or turn from 100 to 250 revolutions per minute, by means of a pulley fixed to the axletree of the said roller, and a strap acting on it in the usual manner of driving machinery, or by any other fit mechanical means. The card to be ground or pointed I nail to a board, made plain and smooth, with a handle fixed to the back part of it to hold it by while grinding, and the extremities of the teeth of the card so nailed I apply to the filletting which covers the said roller while in motion, exactly in a similar manner as in grinding cards (used for dressing woollen cloth) on a strickle roller, that is, a roller covered on its surface with gravel emery, and glue, which is commonly practised by card makers and others, excepting, while grinding, I traverse the card a little from side to side. It is necessary, while grinding, to strew a little fine gravel emery over the said filletting every two or three minutes, by which means the teeth of the card will be brought up to a point in less time ; also care must be taken to keep the stuffing, or grease and emery in the said filletting, soft, so as the extremities of the teeth of the card might easily impress it, by applying a little oil or soft grease to it, otherwise the extremities of the teeth of the card will be ground flat or chissel like, similar to what is produced by grinding on a strickle roller.

"The second principle is the applying or using, for the purpose of dressing or raising the pile on woollen cloths, in machines called gigs (used in the clothing manufacture), pointed wire cards, or cards with the extremities, or ends of their teeth or wires, made picked, and the applying or using, for the said purpose of dressing or raising the pile on woollen cloths, cards, with their extremities or ends of their teeth reduced or made smaller, or tending or inclining to a picked point otherwise than what is produced by grinding cards on a strickle roller, or on a steel roller cut on its surface like a file, or on or with a stone, by either of which means the ends or extremities of the teeth of the card would be ground flat, not tending or inclining to a picked point as is commonly practised. Also for applying, or using for dressing, or raising the pile on woollen cloths by hand (commonly called hand

On the part of the Crown, it was stated that the specification was not sufficient: it did not state the temperature of the water, and it would be found by the

dressing), such pointed wire cards, or cards with the ends or extremities of their teeth reduced as before described, or using pointed wire set or fixed in any other substance, instead of leather, as applicable to dressing or raising the pile on woollen cloths by hand; likewise applying or using wire cards for the purpose of dressing or raising the pile on woollen cloths, with their teeth or wires made of greater length than the teeth or wires of cards hitherto used for the said purpose of dressing woollen cloths, which gives them greater elasticity, and will be found necessary when the ends of the teeth or wires of cards are pointed or reduced. In dressing or raising the pile on woollen cloths by the gig, I find it best to use the pointed wire card in small pieces, about one inch wide and one and a-half inch long, with an allowance of leather for nailing each piece, to contain about 110 teeth or staples, and each staple or tooth to be made about seven-eighths of an inch long, and the leather in which they are to be set of a moderate thickness. The said pieces of cards I nail on boards, leaving a space between each piece of card equal to its length; the said boards to be made as long as the cylinder of the gig in which they are to be used, and to be fastened to it by screws, or in the usual manner practised by those who make use of long boards in dressing by the gig; and the parts of the said boards on which the said pieces of card are to be fixed to be made rounding, or of a circular form, so that when the said pieces of card are nailed to it, the points of their teeth will form a curve, by which means the card will operate more equal on the surface of the cloth. The card may be used in larger pieces, and may be fixed so as to leave less space between each piece, but too great a quantity of card in operation will distress the cloth and endanger the ground thereof, or if used without any space between the pieces of card, so as to form a continuation of card along the board, and without the circular parts on the board, but the board made plain, it would not raise the pile or wool so even on wrinkley cloths. I use about twelve of the said boards on the cylinder at one time, and care must be taken to place or dispose them on the surface of the cylinder of the gig so as for the said pieces of card to operate on the cloth, from list to list, as equally as possible, otherwise the cloth will appear streaky on the face when finished if the cloth has too much breasting or clip on the cylinder of the gig, or, if the cloth is pressed or strained too tight on the card while in work, it will injure the card and endanger the ground of the cloth. In using or applying pointed wire cards, or cards with the extremities of their teeth or wires reduced or made picked for the purpose of raising the pile on woollen cloth by hand, I find it best to have my cards made about eight inches long, and from two to three inches wide, with an allowance of leather for nailing, the teeth or staples of which to be made about seven-eighths of an inch long, and not set so thick or close together in the leather as the teeth are set in cards commonly made use of in dressing by hand, and the leather in which the teeth are set to be of a moderate thickness; the said cards to be nailed to boards, similar to those made use of for dressing by hand, and applied to the cloth in the usual way or manner, which cards are now used in dressing or raising the pile on woollen

evidence that different colours required different degrees of heat ; that the nature of the wood was not described. Wood was to be used for the rollers, but no information was given as to what wood : but the principal objection was, that the third part of the invention was not new, and it had been used twenty years before. It was also objected, that the patent was taken for what were called three principles, and that no patent could be sustained for a principle. Evidence was called in support of the case for the Crown, to show that the part of the patent which related to pointed wire cards was not new ; that the mode of grinding cards had been practised sixteen years, using an emery roller, and bringing the points to a chissel edge, and that the cards had been sold for upwards of twelve years. Other evidence spoke to the trying the boiling of cloth in the manner described in the specification as the third part of the invention ; the cloth was marked by the process, and soon became rotten. Also tried the process with rollers of wood, using deal ; the turpentine boiled out and spoiled the cloth : and, in practice, it was found that different colours of cloth required different temperatures ; that this could not be detected by reading the specification. Spoiled several pieces of cloth before discovering the proper temperature. One witness spoke to using the process in 1807, and for seven years after, in dressing fine woollen cloths. There was no novelty in the third part of the patent ; did it

cloths by hand, excepting they are to be applied to the cloth more gently, otherwise they will be liable to damage the cloth.

" The third principle is the heating woollen cloths, after the wool or pile is raised, by dressing, and before the cloth is racked or dried, for the purpose of producing a fine and more durable lustre, closing the texture of the cloth and giving it a soft handle, which I perform by winding the cloth smooth and tight on a roller while it is quite wet, after it is finished raising, and the wool smoothly laid on the face. I then put it into a furnace (made of a sufficient length to admit the roller with the cloth on it), and completely cover it with water, which water is to be heated by means of a fire under the furnace in the usual manner : the cloth is to remain in the furnace until it is hot in every part. I then take it out of the furnace, and let it get cold before I take it off the roller, when it will be fit to be dried. Care must be taken that the wool on the face of the cloth is not ruffled or disordered in winding on the roller before it is heated.—In witness whereof, I, the said Joseph Clisild Daniel, have hereunto set my hand and seal this ninth day of September, in the year of our Lord one thousand eight hundred and nineteen.

" JOSEPH CLISILD DANIELL."

first for an experiment; found that it gave a lustre, and used it afterwards for that purpose and in a large furnace; the process was not used by others till after the patent. Another witness stated, he used hot water ten years before for fixing the gloss, and it did so; that the process was very valuable.

It was contended, on the part of the defendant, the patentee, that the evidence could not be believed; that there was a highly valuable invention, so valuable to the trade, that had it been known to one manufacturer before the patent, the use of it must have spread; it had not done so till the patent.

His Lordship left it to the Jury to say whether the invention was new.

The Jury found for the Crown.*

* It may not be uninteresting to those who are not acquainted with this branch of manufacture, to state, that this is one of the most valuable inventions which has ever been introduced into the woollen trade. Most persons will remember, that before 1819, whenever a new coat or other garment of woollen cloth was worn, if any rain fell on it the cloth became spotted, and the gloss in those places was removed. It was by pursuing the simple and inexpensive process described under the third part of the specification that the manufacturer obtained, and still obtains, that gloss and beautiful lustre to woollen cloths which is in no way injured by a shower of rain. Manufacturers have since generally awarded to Mr. Daniell the merit of discovering the process. It was considered at the time that the process improved the cloth five shillings a yard in value. To this case modern patentees are indebted for that section of the Act of Will. IV., which empowers the Crown to confirm letters patent, or grant new letters patent, in case the Privy Council, on petition, find that a patented invention has not been publicly and generally used, though a jury may have found the invention claimed not to be new. This section of the Act is most valuable, as, in cases such as the above, and in those where the previous use is to a small extent, or sustained by questionable evidence, it cannot be doubted that the patents would be re-granted under the advice of the Privy Council.

On examining into the subject, it does not appear that any of the patents for inventions which have been granted since the statute of James I., and declared void under proceedings by writs of *sci. fa.*, have been cancelled, either by removing the seals from the patents, or by cancellation of the enrolment in the Court of Chancery. In some of the old cases of patents for inventions on becoming void, they appear to have been surrendered to be cancelled. Since the time mentioned, the parties objecting to the patents appear to have been satisfied by obtaining a verdict in the Queen's Bench, without proceeding to cancel the patent. This question has, by the passing of Lord Brougham's Act, become of great importance, because that statute allows the patentee to make disclaimers and alterations, in order to make a bad patent valid in law; but such alterations or disclaimers are not made useable in any

CROMPTON v. IBBOTSON.

*Lancaster Lent Assizes, before Mr. Justice Bayley and a Special Jury.—
March 20, 1828.*

Mr. Brougham, Mr. Pollock, Mr. Rotch, and Mr. Patteson, for the plaintiff; and Mr. Alderson, Mr. Park, and Mr. Tomlinson, for the defendant.

This was an action brought by the plaintiff to recover damages from the defendant for an infringement of a patent, granted the 1st day of November, 1820,* for an

proceedings pending at the time, excepting in writs of *sci. fa.*, the object of that section of the statute being to retain, under any circumstances, to the inventor, whatever may be new and useful in his specification. In several cases since the statute alterations and disclaimers have been made after verdicts have passed against the validity of the patents in actions brought to recover damages for infringements. (*Morgan v. Seaward; Losh v. Hague; Rubery v. Barrs, post.*) In a late case, *The Queen v. Bynner*, a verdict passed for the Crown in proceedings by writ of *sci. fa.*, upon which a judgment was entered up in the Queen's Bench. After this, application was made to Mr. Attorney-General by the patentee to enter a disclaimer; and the Attorney-General, in behalf of the Queen, suspended all further proceedings in the *sci. fa.* until Mr. Bynner's petition should have been heard by him. Ultimately, in the absence of Mr. Attorney-General, caused by his illness, Mr. Solicitor-General granted leave to Mr. Bynner to disclaim part of the specification; and it is contended, on behalf of Mr. Bynner, that the patent is now rendered valid, and that the Court of Chancery will refuse to cancel the patent. The decision of this point will probably turn on a question on which the authorities are very unsatisfactory and the practice wholly unsettled, viz., whether the judgment against the patent should be entered up in the Queen's Bench, or the proceedings remanded into Chancery and the judgment entered up there. This was the course adopted in another recent case, *The Queen v. Newton*, in which, after verdict for the Crown, judgment was entered up in Chancery; and a motion is now pending before the Lord Chancellor to execute the judgment by taking the seal off the patent and cancelling the enrolment.—W. C.

* The specification was as follows:—

"To all to whom these presents shall come, I, Thomas Bonsor Crompton, of Farnworth, in the County of Lancaster, Paper Manufacturer, send greeting.—Whereas his Most Excellent Majesty King George the Fourth, did, by his letters patent under the Great Seal of that part of the United Kingdom of Great Britain and Ireland called England, bearing date at Westminster the first day of November, in the first year of his reign, give and grant unto me, the said Thomas Bonsor Crompton, my executors, administrators, and assigns, his especial licence, full power, sole privilege, and authority, that I, the said Thomas Bonsor Crompton, my executors, administrators, and assigns, during the term of years therein mentioned, should, and lawfully might

invention for drying paper, which consisted in conducting paper to be dried, by means of a cloth, against the surfaces of cylinders heated with steam.

Mr. Brougham having explained the nature of the invention to the Jury, and that he should be able to prove that the defendant had infringed the patent; and

Mr. Alderson, for the defendant, having admitted the utility of the invention,

Mr. Edward Collins, an extensive paper maker, was called, and examined by *Mr. Rotch*.

The witness explained the nature of the invention, and spoke to its novelty and utility.

The witness, in his cross-examination, and also in his examination by the Learned Judge, stated, that before the patent the plaintiff had tried various cloths of cotton, of

make, use, exercise, and vend within England, Wales, and the town of Berwick-upon-Tweed, my invention of 'An improvement in drying and finishing of paper by certain means hitherto unused for that purpose;' in which said letters patent there is contained a proviso, that if I, the said Thomas Bonsor Crompton, shall not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be enrolled in his Majesty's High Court of Chancery, within six calendar months next and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever thereby granted, shall utterly cease, determine, and become void, as, in, and by the same, relation being thereunto had, will more fully and at large appear.—Now know ye, that in compliance with the said proviso, I, the said Thomas Bonsor Crompton, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the drawings hereunto annexed, and the following description thereof: (that is to say;) The invention I claim consists in conducting the paper, by means of cloth or cloths, against the heated cylinders, which cloth may be made of any suitable material, but I prefer it to be made of linen warp and woollen weft, which cloth is shown in the drawing by the blue lines, and the paper is shown by the red lines."

[The specification, by description, aided by drawings, explained the mode of using the conducting cloths with heated cylinders, but, as nothing turns on the description of the mechanical parts, it is not necessary to give the same here.]

The specification concludes as follows:—

"Although I have specified with reference to the accompanying drawing, yet I consider any method of conveying paper over heated rollers or plates, for the purpose of drying paper, by means of a conductor or conductors, to be an infringement of my patent."—In witness, &c.

"THOMAS BONSOR CROMPTON."

wool, and of linen, and that the plaintiff had told him that neither cotton nor linen alone, nor woollen alone, would answer for conducting paper against heated cylinders to be dried. If it had not been for conversing with the plaintiff, he should not, from his experience, have known from the specification whether cotton, linen, or woollen cloths, would do for the conducting cloth; believed that no cloth but linen warp, and woollen weft combined, would do; did not know whether silk would do.

Mr. Alderson submitted, that the plaintiff must be nonsuited, and cited the case of *The King v. Wheeler*.*

Mr. Brougham urged, that the specification did not mislead. It stated that the patentee preferred cloths of linen and woollen combined, which answered well.

If patentee knows by experience, of some thing, failing his spec. must not mislead by stating those things without reserve.

Mr. Justice Bayley.—I have no difficulty in this case. If the patentee made certain experiments, and failed in them, he is not to mislead the public by speaking of any cloths, knowing, at the same time, that certain cloths would not do.

The plaintiff was nonsuited.

CROMPTON v. IBBOTSON.

In the Court of King's Bench.—April 28, 1828.

Mr. Brougham.—This was an action tried before Mr. Justice Bayley last Lancaster Assizes, in which the plaintiff was nonsuited under the direction of the Learned Judge. I now humbly move that that nonsuit may be set aside and a new trial had. The action was brought to recover damages for the infringement of a patent taken in 1820, for drying paper, by conducting it, by means of cloths, against heated cylinders. The specification stated, that the invention consisted “in conducting the paper, by means of cloth or cloths, against the heated cylinder, which cloth may be made of any suitable material, but I prefer it to be made of linen warp and woollen weft.”

Lord Tenterden.—Conducting paper by means of cloth?

Mr. Brougham.—“By means of cloth or cloths against

* *Ante*, page 394.

the heated cylinders, which cloth may be made of any suitable material, but I prefer it to be made of linen warp and woollen weft." If only heated cylinders be used, without a conducting cloth, which had before been attempted, the paper became what is called "cockled," or blistered. This patent does not consist of applying hot cylinders to paper, but the patent was for conducting it,—the mode of conducting it,—conducting it by cloths against the cylinders; and then, in the subsequent part of the patent, the patentee says, "Although I have specified with reference to the accompanying drawing, yet I consider any method of conveying paper over heated rollers or plates, for the purpose of drying it, by means of a conductor or conductors —" Your Lordships will see that the invention is the conducting process, and it is not contested that that was not new, nor is it contested that that was not useful. Only one witness was called, and he stated that other kinds of cloths had been tried, and found not to answer.

Mr. Justice Bayley.—Which the plaintiff had tried?

Mr. Brougham.—He stated a conversation between the plaintiff and himself.

Mr. Justice Bayley.—He said this: They had tried linen,—that would not do; that he had tried woollen,—that would not do; that he was not aware whether anything would do except that which the plaintiff used.

Mr. Brougham.—He did not say that the plaintiff had said nothing else would do. The Learned Judge seemed to be of opinion, that because he had not stated what would not do, so as to prevent persons experimenting, that the patent could not be supported. I agree, that if the patentee had so described his invention, as to require experiment in order to arrive at the result, that such should be the case; but here the patentee states what he prefers, and that which he prefers is best for the purpose. There is, therefore, no experiments necessary. The patentee, in substance, says, "I do not say that that is the only material, but that I prefer, because it fully answers the purpose."

Mr. Justice Bayley.—He says, any suitable material.

Lord Tenterden.—A person would apprehend there were many materials which would be suitable. If he happened not to have cloth made of linen warp and woollen weft, he would have tried some other and have

Patentee bound to give public benefit in his specification which he knows from experience
failed. The patentee has not fully and fairly exposed all he knew upon the subject, which he is bound to do. The plaintiff found, after repeated trials, that nothing would serve the purpose except the cloth described in the specification; yet he says, the cloth may be made of any suitable material, and merely that he prefers the particular kind there mentioned. Other persons, misled by the terms of this specification, may be induced to make experiments which the patentee knows must fail, and the public, therefore, has not the full and entire benefit of the invention. In *Turner v. Winter*,* a patent was held void on the ground of an ambiguity in the specification like the present.

Mr. Justice Holroyd.—I think his specification should have been according to what he knew on the subject, and not to have stated that it might be done by other materials.

Mr. Justice Littledale.—I am of the same opinion.

Mr. Justice Bayley.—I thought at the trial, that it was the bounden duty of a patentee to make a full disclosure to the extent of his knowledge, and that if he knew that any given means would not answer, and yet he included those means in his specification, he was misleading the public and drawing them to the expense of experiment. It was clear, by the evidence of Collins, that Mr. Crompton, the patentee, in this case knew that woollen, that linen, and that cotton would not do. Before I nonsuited, I put a variety of questions to the witness, who said, "I should not have known, but from conversations with Mr. Crompton, whether woollen cloth would answer or not." "I should not have known what material would or would not have been suitable." "I am not aware any material is suitable but linen and woollen mixed." "I think cotton would not do." "I cannot tell whether silk would." I thought at the trial, and I think so now, that a party knowing that given materials will not answer the purpose, he is bound in his specification so to word it as not answer, to prevent parties from trying experiments on that which he knows will not answer.

Rule refused.

* *Ante*, page 105.

IN RE REDMUND.

In the Rolls' Court.—July 25, 1828.

THIS was an application by petition, to the Master of the Rolls, to amend a clerical error in the specification of a patent which had been enrolled.

The petitioner stated, that within the last month he had discovered that the copying clerk, in engrossing the specification and the plan annexed to it, had, by mistake, transposed the numbers by which, in the specification, reference was made to the plan. The prayer was, that this clerical error in the enrolment of the specification might be amended.

The Master of the Rolls made the order, and the specification was altered by the proper officer.*

STURTZ v. DE LA RUE AND OTHERS.

In the Court of Chancery, before the Lord Chancellor (Lyndhurst).—December 24, 1828.

IN this case an *ex parte* injunction had been obtained by the plaintiff to restrain the defendants from using and putting in practice, and vending the invention for which a patent had been granted to John George Christ, the 14th day of February, 1827, for "Certain improvements in copper and other plate printing."† Application was now

* There have been many clerical errors in specifications amended on petition to the Master of the Rolls. Thus, the word *wire* was introduced for the word *fire*, in Whitehouse's specification for making gas tubing, and the specification containing this error was enrolled: the Master of the Rolls, on petition, allowed the alteration. This patent came in question in *Russell v. Cowley*, *post*, and was supported. Another case, in which the specification recited the patent taken by Mr. Rubery for umbrella furniture by a wrong date, was so enrolled, and was altered on petition to the Master of the Rolls, and the patent came in question in *Rubery v. Barrs*, *post*.—W. C.

† The specification was as follows:—

"To all to whom these presents shall come, I, John George Christ, of the Old City Chambers, Bishopsgate-within the City of London, Gentleman, send greeting.—Whereas I, the said John George Christ, in consequence of a communication made to me by a certain foreigner residing abroad, am in possession of an invention of 'Certain improve-

made by the defendant to dissolve the injunction, for various reasons, principally, however, on the grounds

ments in copper and other plate printing.' And whereas his present Most Excellent Majesty King George the Fourth, by his letters patent under the Great Seal of Great Britain, bearing date at Westminster the fourteenth day of February, in the eighth year of his reign, did for himself, his heirs and successors, give and grant unto me, the said John George Christ, his especial licence that I, the said John George Christ, my executors, administrators, and assigns, or such others as I, the said John George Christ, my executors, administrators, or assigns, shall at any time agree with, and no others, and from time to time, and at all times thereafter during the term of years therein expressed, should, and lawfully might, make, use, exercise, and vend, within England, Wales, and the town of Berwick-upon-Tweed, and also in all his said Majesty's colonies and plantations abroad, the said invention of 'Certain improvements in copper and other plate printing,' in which said letters patent is contained a proviso obliging me, the said John George Christ, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of the said invention, and in what manner the same is to be performed, and to cause the same to be enrolled in his said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said letters patent, as, in and by the same, reference being thereunto had, will more fully and at large appear.—Now know ye, that in compliance with the said proviso, I, the said John George Christ, do hereby declare the nature of the said invention to consist in putting a glazed or enamelled surface on paper to be used for copper and other plate printing, by means of white lead and size, whereby the finer lines for the engraving are better exhibited than heretofore; and also in a mode of polishing the said enamel, and the impression after it has been drawn from the plate. And in further compliance with the said proviso, I, the said John George Christ, do hereby describe the manner in which the said invention is to be performed as follows: (that is to say;) I prepare a size made as follows:—I take one pound of clean parchment cuttings, a quarter of a pound of isinglass cuttings, and a quarter of a pound of gum arabic, and put these ingredients altogether in twenty-four quarts of clean spring or rain water, and boil the mixture in a common iron or other pot till it is reduced in quantity to twelve quarts, which I then strain through a flannel bag. The size being thus prepared, I divide it into three portions, of four quarts each. To one of the said portions, which I designate as No. 1, I add, while the size is at or just under a boiling heat, ten pounds of the finest and purest chemical white lead, previously ground fine with a little cold water, and stir the whole together while warm till it assumes the appearance of an even coloured fluid, which, when milk-warm and kept stirred, will be fit for use. To another of the said portions, which I designate as No. 2, I add eight pounds of like white lead in the same manner; and to the other of the said portions, which I designate as No. 3, I add six pounds of the like white lead in the same manner, and, being thus prepared with these three mixtures, I proceed to apply them to the paper as follows: (that is to say;) I lay a sheet of white letter or other paper smoothly on a board, and, with a common painter's brush, I lay a thin coat of No. 1, evenly over the surface of the paper, and set it aside to dry for twenty-

that the title given to the invention in the patent, and the invention described in the specification, were not consistent; and that the specification was defective, and tended to mislead. On the part of the plaintiff, evidence was given that the defendants were working according to the patent on a large scale, and were selling the cards so that they might be printed on, and that the invention was highly useful. On the part of the defendants, evidence was given, that six years ago Mr. De la Rue had discovered a composition, by which white surfaces might be put on paper and cards and other materials; that then,

four hours. At the end of this time I lay a similar coat of No. 2, over the first coat, and in the same manner, and set it aside again for twenty-four hours more to dry as before. I then lay a similar coat of No. 3, over the other two coats, and again set it aside to dry as before, when the paper will be fit to use; but, if it receives two coats more of No. 3, in the same way as before described, the paper will look the better. It should here be stated, that the mixtures should be kept stirred and at a milk-warm heat while in use; and if it be required to give any tint to the mixture, it should be done by grinding the colour with the white lead as before described before it is mixed with size. The surface of the paper, having been glazed or enamelled as before described, is ready to receive the printers' ink, or other material, from the plate, and, being placed on the press-board, the plate is applied, and the impression drawn off in the usual manner. But it should be stated, that what is called the press-board, should, for this purpose, be made of a plate of cast-iron, ground to a perfectly smooth and level surface. The paper, with the impression so drawn off as aforesaid, should be then laid by for twenty-four hours, and, at the end of that time, placed with the impression downwards on a plate of finely polished steel, and passed several times through the press with a strong pressure, which will give to the glazed or enamelled surface of the paper, and also to the impression, its last and highest polish. Now whereas I claim, as the said invention, the glazing or enamel hereinbefore described, applied to paper or card board, in manner also hereinbefore described, for the purpose of copper and other plate printing, and such said invention being, to the best of my knowledge and belief, entirely new, and never before used within that part of his said Majesty's United Kingdom of Great Britain and Ireland called England, his said dominion of Wales, or town of Berwick-upon-Tweed, and also in all his said Majesty's colonies and plantations abroad, I do hereby declare this to be my specification of the same, and that I do verily believe this my said specification doth comply in all respects, fully and without reserve or disguise, with the proviso in the said hereinbefore in part recited letters patent contained, wherefore I hereby claim to maintain exclusive right and privilege to the said invention.—In witness whereof, I, the said John George Christ, have hereunto set my hand and seal, this fourteenth day of August, in the year of our Lord one thousand eight hundred and twenty-seven.

"JOHN GEORGE CHRIST."

and at many subsequent periods, he performed various experiments with barytes, and also with various preparations of lead, such as white lead, subcarbonate of lead, and flake white; that, by combining barytes with size, he obtained a most brilliant enamel; that he tried subacetate of lead, of the best quality he could purchase, with size, but it wholly failed of producing any good effect on paper, that no gloss could be obtained, and, on trying to obtain gloss by pressure and friction, a bad colour was the result; that long before the date of the patent he had tried these and various other experiments, amongst others, barytes, subcarbonate of lead, white lead, and flake white; that when he read the specification, he was conversant with such matters, and was satisfied that the results spoken of by the specification could not be produced by the means described in the specification. In order to test the same, he worked in every way as described by the specification, and entirely failed; the result being the same as what formerly had resulted from his use of white lead with size; that the description, "the purest chemical white lead," was vague and indefinite; that there was no such white lead known in the trade; that he had made application to, he believed, all the principal colour makers and sellers, and all informed him that they knew of no such white lead; that he had discovered that the plaintiff imported the white substance used from abroad; that the white substance had been tested in various ways, and that it was evidently not any of the substances known in this country as white lead; that even the white colour so imported by the plaintiff, when used with the size mentioned in the specification, failed to produce the effect described; that the enamelled surface could not be laid on as described, and that, when laid on and dried, it would not be in a state to be printed on, but must be damped, which is not stated in the specification; that the specification could not be followed so far as related to colours; that no useful impressions from copper or other plates could be obtained by following the specification; that the patent was obtained for copper and other plate printing, whereas it ought to have been for an improved paper; that the defendants had never used the paper for copper or other plate printing. Several witnesses deposed to these facts. On the part of the

plaintiff, and in answer to the defendant's case, evidence was given by a witness who had applied at Ackermann's in the Strand, and had purchased white lead; that the same, when used according to the specification, answered the purpose as described; that in submitting it to heat, lead resulted, which was the ordinary test; that damping was the ordinary means resorted to for all printing, and, therefore, did not require to be mentioned other than by stating that the impression was to be taken in the ordinary manner, which included damping; that in working the invention under the patent, the quantities of ingredients had been strictly adhered to; that the brush used, as described in the specification, was a common painter's brush. On the part of the defendant, it was sworn, that a person, on going to the two shops of Ackermann and asking for the purest chemical white lead, was told at one shop that the colour was not known, and, at the other shop, that they did not keep it.

Mr. Tinney and *Mr. Rotch* for the plaintiff; *Mr. Horne*, *Mr. Sugden*, and *Mr. Loraine*, for the defendants.

On behalf of the defendants, *Mr. Sugden*, and the other counsel with him, contended that the title of the patent and the specification were at variance; the specification disclosed no improvements in copper and other plate printing: on the contrary, the invention consisted in getting a peculiar glaze to paper, and for that preparation of paper the patent should have been taken. The process of printing, when using this paper, was the same as before practised: how, then, could there be any improvement in printing?

His Lordship stopped the counsel for the plaintiff, and said;—The description in the patent must unquestionably give some idea, and, so far as it goes, a true idea of the alleged invention, though the specification may be brought in aid to explain it. The title in this patent is for "Certain improvements in copper and other plate printing." Copper-plate printing consists of processes involving a great variety of circumstances. The paper must be of a particular description; before it is used, it must be damped; it must remain damp a certain time, and must be placed in a certain temperature; the plate must be duly prepared, and duly applied, and various processes

The right to give some idea of invention the title as far as it goes.

must be gone through before the impression is drawn off and brought to a finished state. An improvement in any one of these circumstances,—in the preparation of the paper, for instance, or in the damping of it, &c.,—may truly be called an improvement in copper-plate printing. In this case, the principal part of the improvement relates to the preparation of the paper. It is material to the perfection of copper-plate printing, that the lines should be as distinct as possible; and if, by adding anything to the surface of the paper, more clearness is given to the lines, that is an improvement in copper-plate printing. Here, however, the improvement extends to other steps of the process as well as to the preparation of the paper: for the specification, though it says that the impression is to be taken off in the usual manner, states, that an iron board is to be substituted for a wooden one, and describes a subsequent operation through which the impression is to go.

It was then contended, on the part of the defendants, that the specification did not disclose the invention so that a person of skill could produce the desired result; that there was no such thing known in the trade as the purest chemical white lead; that the witness who had purchased it at Ackermann's should have stated what he asked for when he purchased the article which had been obtained and used. The witness for the defendant had been informed at both shops, that they did not keep it; they did not know it. Could this be correct? The patentee had designedly kept back the true name of the material used. It was abundantly shown that the object of the patent could not be obtained by pursuing the specification: the patent was, therefore, void. The patent was for using a particular article in a particular way: the patent could not be infringed unless that article, or substantially that article, were used. How could any person know when he was committing an infringement if he did not find the article mentioned in the specification? The defendant was not using any such article as the purest chemical white lead, and, therefore, he could not be infringing the patent; that the plaintiff did not use white lead, but a German preparation of white.

Mr. Tinney and *Mr. Rotch* were heard in reply. They urged, that every person must know that the purest chemical white lead must mean white lead in a

high state of purity, and every manufacturer must know the means of obtaining white lead in a high state of purity. Comparatively impure white lead would, for a time, produce the effect, but the impurity would cause the beautiful surface to go off and tarnish; therefore the instructions in the specification, that the purest chemical white lead must be obtained, that is, white lead purified by known means of chemistry. The patentee did not make the article, it was purchased by him; he knew nothing about making white lead or purifying it; he, therefore, gave the best information he possessed, by stating that the purest chemical white lead was to be employed in carrying out the invention. It possibly was true that the lead was of foreign preparation, but the plaintiff was not to be injured by that circumstance.

The *Lord Chancellor* gave judgment as follows:—
It is a principle of patent law, that there must be the utmost good faith in the specification. It must describe the invention in such a way, that a person of ordinary skill in the trade shall be able to carry on the process. Here, the specification says, that there is to be added to the size certain proportions "of the finest and purest chemical white lead." A workman would naturally go to a chemist's shop, and ask for "the finest and purest chemical white lead;" the answer which he would receive would be, that there was no substance known in the trade by that name. He would be compelled to ask for the purest and finest white lead, and, according to the evidence, the purest and finest white lead that can be procured in London will not answer the purpose.

It is said, that there is a substance prepared on the Continent, which is white lead, or some preparation of white lead; and that, by using it in the manner described in the specification, the desired effect is produced. If that be so, the patentee ought to have directed the attention of the public to that circumstance: he ought to have said, "The purest white lead which can be obtained in the shops in London will not do; but there is a purer white lead prepared on the Continent, and imported into this country, which alone must be used." "The purest and finest chemical white lead" must mean the finest and purest white lead usually gotten in the general market for that commodity, unless the public be put on their guard by a statement, that what would be called very fine and

*Seem to be founded
on good faith &
not properly intelligible*

An article not made in this country but requiring to be imported ought to be so stated in the Spec.

pure white lead, in the ordinary sense of the trade, will not answer, but that the white lead used must be of a superlatively pure and fine quality, prepared in a particular way, and to be gotten only in a particular place. If the article is not made in this country, but may be imported, it would be necessary to mention that circumstance.

It is said, that the description in the specification will be sufficient if the substance is known in the trade by the name of "the purest and finest white lead," or "the purest and finest chemical white lead." But it does not appear that there is any substance generally known in the trade by that denomination.

It is alleged, that the substance can be purchased at the shops in London, and two are specified. In point of fact, it has been purchased only at one of those shops; and they are not chemists' shops, but colour shops.

It appears to me that this specification does not give that degree of full and precise information which the public has a right to require.* In this state of

* It may not be uninteresting to state the circumstances under which this specification was enrolled. Mr. Rotch, who drew it, gave the following evidence in 1829, before a Committee of the House of Commons inquiring into the law relating to letters patent for inventions. The learned gentleman was stating that many patentees were desirous of keeping some important matter secret. He said:—"In the case of those elegant visiting cards which have been lately shown about with an enamel on them, that is produced solely by a particular white colour which is brought from Germany; the inventor, a German, came to me on the subject of his specification, and told me it was done with the purest chemical white; I said, 'It appears to me it must be the German white' (Kremnitz white); he said, 'It is the purest chemical white;' shielding himself under the knowledge that the Kremnitz white was purer than any other; he would not allow me to put in his specification the Kremnitz white, but made me put it 'the purest chemical white.' I said, 'You take the responsibility on yourself, and recollect, if your patent is ever upset on this point, you absolve me upon it,' and I even made him write a note to that effect; and years afterwards, during the whole of which period the English manufacturers had been trying to make it and had failed, somebody says, 'It is Kremnitz white;' I believe it was Ackermann, who is a German, and they repealed the patent. I supported it all I could, and contended because Kremnitz white is the purest chemical white, it was accurately described, not *eo nomine*, but by a faithful description, in saying it is the purest chemical white; but the Lord Chancellor properly said at once, 'This is not a description on which the public can act; at any rate the patentee knew a better one:' that will only show the Committee the feeling there is, if possible, to conceal something from the public."

the evidence, therefore, the injunction cannot be sustained.

When a party comes for an injunction against the infringement of a patent, he ought to state that he believes, at the time when he makes the application, that the invention was new, or had never been practised in this kingdom at the date of the patent. It is not enough that it was believed to be new at the time when the patent was taken out.

The injunction must be dissolved, with costs.

LEWIS AND ANOTHER *v*. DAVIS.

*In the Court of Queen's Bench, before Lord Chief Justice Tenterden.—
January 14, 1829.*

Mr. Attorney-General (Scarlett), Mr. Brougham, Mr. Campbell, and Mr. Rotch, for the plaintiffs; Mr. F. Pollock, Mr. Denman, C. S., and Mr. Platt, for the defendants.

This was an action brought by the plaintiffs for an infringement of a patent, granted on the 15th day of January, 1818,* for "Certain improvements on shearing

* The specification was as follows :—

"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, we, the said John Lewis, William Lewis, and William Davis, do hereby declare, that the nature of our said invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the drawing hereunto annexed, and following description thereof: (that is to say;) *A*, is a true cylinder of metal, on which is fixed a triangular steel wire. This wire is previously bent round the cylinder, *A*, in the form of a screw, as represented at *B*, in fig. 1, and is hardened. In every figure of the annexed drawing the same letter, marks the same part of the machinery. The two extremities of the wire, *B*, are passed through oblique holes in the ends of the cylinder, *A*, and fastened by nuts screwed on the ends of the said wire, one face of the wire being in contact with the cylinder, *A*. The axis of *A*, turns in sliding pieces, *C*, adjustable in the piece, *D*, by the screw, *E*. *D*, is screwed to the pieces, *F*, which are adjustable in *H*, by the screw, *G*, and made fast by the screw, *I*. *H*, turns on fixed centre-pins, *K*, which are adjustable in rectangular holes in *T*, and fixed by nuts. *T*, is adjustable on the carriage, *V*, by means of nuts on each side of the pieces, *U*, which are fixed in *V*; and *T*, is fixed to *V*, by the nut, *X*. *V*, is made fast to *S*, by the screws, *W*. *J*, is a steel blade, hardened and screwed to the metal bar, *Z*, which is fixed by screws to *H*. *N*, and *O*, are a number of thin flat springs of metal, fixed to the bars, *P*, *Q*; which bars, *P*, *Q*, are made fast

machines for shearing or cropping woollen and other cloths that may require such process; the same being

by screws to the piece, *s*. The said springs, fig. 4, require to be covered with a thin piece of leather, or other suitable substance, to prevent them from catching in any holes or inequalities in the cloth which is intended to be shorn. The springs, *n*, *o*, may be made in the form represented in fig. 4, or fig. 5, drawn in a plane at right angles to that of fig. 3. *l*, is a part of *d*, formed into a handle, for the purpose of raising *j*, from *n*, by turning the piece, *n*, on the centre-pins, *k*. The distance of *j*, from *n*, is adjustable by the screw, *a*, which bears on *r*. A spring, *m*, is screwed to *r*, for supporting the handle, *l*, by a shoulder, *e*, when the handle is raised to the place of the dotted lines crossing *m*. The carriage, *v*, is moveable backwards and forwards on the frame, *r*, by the line, *z*, being wound alternately on the rollers or drums, *a*. *v*, is drawn toward *f*, by the worm, *c*, working in the teeth of the wheel, *b*, which wheel has a handle, *r*, on its axis, for the purpose of bringing *v*, back from *f*, to *d*, the worm, *c*, being first disengaged from *b*, by depressing the handle, *q*. The worm, *c*, is fixed on the axis of the rigger or pulley, *d*, which is turned round by an endless line, *e*, passing round the riggers, *g*, *f*, *h*. The axis of *h*, is moveable in a vertical groove in the frame, *r*, and is drawn downwards by a weight, *i*, to give sufficient tension to the endless line, *e*. The axis of the rigger, *f*, carries the rigger, *j*, to which the moving power is applied. *j*, turns the axis of *f*, by means of a clutch, and is disengaged when the carriage, *v*, arrives sufficiently near to the end of the machine at *f*, *j*, by means of a projecting bar fixed and adjustable on *v*. The rigger, *g*, is fixed on the axis of the cylinder, *a*. *o*, is a roller at each end of the machine: a piece of cloth is fastened by the one end to *o*, and the other end of the said cloth is furnished with a number of hooks, for holding, as in the common way, the cloth intended to be shorn. The rollers, *o*, are adjustable by the handles, *x*, and fixed by ratchet-work, *p*. *k*, are two parallel cylinders, on which the cloth to be shorn is rolled: they are turned round by the handle, *m*, and fixed as required by the ratchet-work, *l*. Two parallel bars of wood, *n*, are fixed, by screws, at their extremities, to the frame, *r*, of the machine. The cloth to be shorn is wound on one of the rollers, *k*, passed over one of the bars, *n*, then between *o*, *n*, and *n*, *j*, and next made fast to a piece of cloth, which is fixed to the other roller or cylinder, *k*, and brought over the other bar, *n*. The lists or edges of the cloth to be shorn are to be fastened to the hooks before described, moved by the rollers, *o*. A narrow strip of plush is fixed on the surface of *a*, parallel with the wire, *b*, to answer the purpose of a brush, for raising up the wool which is to be shorn off the cloth; or, instead of the plush, bristles may be inserted in the cylinder, *a*, with similar effect.

"The form of the machine now described is for shearing cloth across, from list to list.

"Figures 6, and 7, represent the form of the machine when it is intended to shear cloth lengthwise, or from end to end. The width of the frame, *r*, fig. 7, must exceed the width of the widest cloth intended to be shorn. On one end of the axis, 1, of the cylinder, *a*, is a worm, turning the wheel, 2, and the axis, 3, and the worm, 4. The worm, 4, turns the wheel, 5, and the roller, 6, which is covered with wire cards. On the axis of the roller, 6, is a rigger, 7, which turns the rigger, 9, by

further improvements on a patent obtained by John Lewis, for an improved shearing machine, dated the 27th of July, 1815."

The Learned Counsel on behalf of the defendant, not wishing to call evidence, and yet being desirous of having it in evidence that the use of rotatory cutters was not new for shearing cloth, contended that the plaintiffs must put in the specification of the patent of 1815, and his Lordship ruled that it must be put in by the plaintiff as part of his case.

His Lordship said;—When these parties applied to the

means of an endless line, 8, crossed. A roller, 10, is fixed on the axis of the rigger, 9, to receive the cloth, 11, from the card-roller, 6, after it has been drawn out of the trough, 13, and shorn in passing between o, and n, and between n, and j. When a considerable part of the cloth, 11, is wound upon the roller, 10, the line, 8, will slip, so as to avoid injuring the cloth by too great a degree of tension. The bar, o, in fig. 6, is designed to guide the cloth, 11, near to the fixed part of the spring-bed, in order that the tension of the cloth shall be as much as possible in the direction of the length of the spring or springs, and, consequently, that the cloth shall have no power to remove the spring-bed from the cutting edges. In order to protect the lists of the cloth, 11, from being shorn, two thin pieces, or bent plates of metal, 12, in fig. 6, are placed, by hand, on the moveable end of the spring or springs, n, exactly over each list, the lists being between n, and the plates, 12.

"In the machinery which we have now described, we claim as our invention, First, the application of the flat spring, n, o, fig. 3, and of the spring or springs, n, and the bar, o, in figures 6, and 7, for directing and pressing the cloth to be shorn against the cutting edges, so that the strain of the said cloth shall be as much as possible in the direction of the length of the spring or springs, n, in order that it may have no power to remove the spring-bed from the cutting edges. Secondly, the application of the triangular steel wire, s, on the cylinder, a. Third, the application of a proper substance, fixed on or in the cylinder, a, to brush the surface of the cloth to be shorn. And, Fourth, the described method of shearing cloth across from list to list by a rotatory cutter. Observe, it is advisable to shear fine cloths from list to list; but, as for coarse cloths, and for wrong sides in general, it will be advantageous to shear them from end to end.

"Figures 1 (an end view), and 2 (a side view), represent a machine for shearing cloth across from list to list.

"Figures 6 (an end view), and 7 (a side view), represent a machine for shearing cloth from end to end.

"Figure 3, represents the carriage and end view of the cutters, j, s.

"Figures 4, and 5, are different forms of the spring bed.—In witness, &c.

"JOHN LEWIS.

"WILLIAM LEWIS.

"WILLIAM DAVIS."

*the scope of patent
infringement upon a
former invention
the distinction must
be drawn between the
right of the original
invention*

Crown in the year 1818, they might have applied for a patent for their invention without reference to anything that had gone before. Now that they have not done; on the contrary, they profess to have improved a machine already known. That machine may be used by any one after fourteen years from the earlier patent, but any new matter included in the present patent is not open to everybody till fourteen years from a later period. It is, therefore, material to show what are the improvements contained in the plaintiffs' patent. Now, I cannot say what are improvements upon a given thing without knowing what that thing was before; for aught I know, all the things mentioned in the plaintiffs' specification may have been included in the former specification.

The specification of the former patent being put in and read, it was found to consist of a machine for shearing cloth, using a rotatory cutter such as is described in the specification to the patent of 1818, and it claimed the application of such blades or cutters to the shearing of cloth. The specification and drawings described and showed that the cut was made in the way of the length of the cloth. The evidence on the part of the plaintiff stated that it was new when using rotatory cutters in shearing cloth to cause the cut to be transversely of the cloth, that is, in a direction from list to list, that that was a very important improvement over the machine described under the former patent. It was proved that the defendant's machine had none of the other parts claimed in the plaintiffs' specification, except the rotatory cutter acting in the direction claimed by the plaintiffs. The defendant also gave an endway motion to the rotatory cutter (for which he obtained a patent), and the plaintiffs' did not, and the cutter was put in motion in a different manner to that described in the specification. In cross-examination, it was elicited, that shearing from list to list by hand shears, and also by machines not working with rotatory cutters, was the best and ordinary manner of shearing cloth, long before the patent of 1818; in fact, that as early as 1794, machine shearing had been so performed; that similar rotatory cutters had been long before used in cutting hay and straw for the food of horses as it was forced out of a trough, and that a patent had been taken for such rotatory cutter.

Mr. F. Pollock, on behalf of the defendant, contended,

that as shearing from list to list was old, and as the shearing of cloth with rotatory cutters was old, no valid patent could be had for using a known instrument in a known direction, simply because the particular instrument had not been caused to work in that direction. The Learned Gentleman also contended, that the machine of 1815 was useless, and that that patent could not be sustained; and that no patent could be supported for an improvement of a thing which was useless in itself.

Lord Chief Justice Tenterden.—It is not material whether a machine made under the patent of 1815 is useful or not, as it is shown that the plaintiffs' machine is highly useful. The case stands thus:—It appears that a rotatory cutter to shear from end to end was known, and that cutting from list to list by means of shears was also known. However, if, before the plaintiffs' patent, the cutting from list to list, and the doing that by means of rotatory cutters, were not combined, I am of opinion that this is such an invention by the plaintiffs as will entitle them to maintain the present action.

Verdict for the plaintiffs.

LEWIS AND ANOTHER v. MARLING.

In the Court of King's Bench, before Lord Chief Justice Tenterden and a Special Jury.—November 3, 1829.

THIS was an action on the part of the plaintiffs to recover damages for the infringement of a patent granted in 1818.*

Mr. Attorney-General (Scarlett), Mr. Brougham, Mr. Campbell, and Mr. Rotch, for the plaintiffs; *Mr. F. Pollock, Mr. C. F. Williams, Mr. Alderson, and Mr. Godson*, for the defendants.

Mr. Attorney-General stated the plaintiffs' case, and urged, that as the validity of the patent had been established in the case of *Lewis and Others v. Davis*, that the jury ought to give considerable damages. A patentee ought not to be driven by the trade to bring several actions in support of his right.

Similar evidence was given to that in the former case,

* For the specification, see page 471, *ante*.

and it was shown that the plush described and claimed was of no use and had been abandoned.

Mr. F. Pollock, for the defendant, called on his Lordship to nonsuit the plaintiff. Part of his patent being bad, it was evident the whole must fall. The plush was useless, and yet it was claimed as an important part of the invention.

Mr. Attorney-General.—The argument on the other side is, that if a man makes an improved machine, combining with it something that was always thought necessary, and it be afterwards found that his improvement was so good that it dispenses with this thing that was always thought necessary, he is to lose his patent. The public is not deceived, and the only objection now is, that it was found, a year after the taking out of the patent, that if more than one cutter were applied, the plush was unnecessary.

Mr. Brougham, on the same side.—We say, that one of our novelties is the using of a brush of plush upon the cylinder, and that is an improvement upon the older modes of brushing. In the same way, we say, that our rotatory cutters are an improvement on shears used by hand.

Mr. F. Pollock, in reply.—If the thing was beneficial at the time of the invention, I admit that it will not vitiate the patent, that it becomes of no use by means of something invented afterwards; but here, the patentee claims as an invention a thing that with his machine is useless.

Lord Chief Justice Tenterden.—This is a patent for an improved machine for shearing woollen cloths, which is to be effected by means of rotatory cutters going from list to list. In his specification the plaintiff claims several things as of his invention, one of them being the application of a proper substance to brush the cloth. It appears, that before this patent, the universal practice was to raise the wool by means of some kind of brush: here, the patentee claims the exclusive use of this plush for that purpose, but not as an essential part of his machine. He claims it as his invention, and states it to be a novel mode of doing that which was always done before, either by a brush or by some other means. There

Anything claimed in a Steam Engine as mentioned in his specification some ingredient that he did

essential

not use, and the patent was held to be void. (*Turner v. Winter.**) But there the party deceived the Crown: and to his unduly articles, I think that that case is quite distinguishable from the *the spec. but otherwise of spec. as not essential.* present. Here the party says, This is a part of my machine, but he nowhere says that it is essential. I think, therefore, that there is no weight in the objection.

For the defence it was stated, that the mode of shearing from list to list, by means of rotatory cutters, was not new at the time of the plaintiffs' patent; and it was proved, that in the year 1811, a specification was enrolled in America for a machine to shear cloth from list to list by means of rotatory cutters; and that, in that year, a model of an exactly similar machine was brought to England, and exhibited to three or four persons. It was also proved, that in the year 1811, Mr. Thompson, a manufacturer in Yorkshire, employed workmen to make a machine from the American specification, and that they had set about it, but that, in consequence of the Luddite riots, Mr. Thompson was afraid to have it completed. However, in answer to this, it was shown, that after the riots had ceased, the machine was left unfinished, and Mr. Thompson bought the plaintiffs' machines.

Lord Chief Justice Tenterden then addressed the jury, and said;—The object of the plaintiffs' patent is, a method of shearing from list to list by means of rotatory cutters; and if the case rested on the evidence on the part of the plaintiffs, there is no doubt that the plaintiffs' was the first machine of this kind used in this country; but, on the part of the defendant, it is contended, that there is such a want of originality and novelty in the plaintiffs' machine as will prevent their recovering in this action. It is, no doubt, incumbent on the plaintiffs to show that their machine is new, but *in the place of novelty the question is over whether the patentee has actually invented the thing but whether he is the first to introduce it to public use, &c.* it is not necessary that they should have invented it from their own heads: it is sufficient that it should be new as to the general use and public exercise in this kingdom. If it were shown that the plaintiffs had borrowed from some one else, then, of course, their patent would fail. To show that the machine was not new, evidence is given that a model has been seen by three or four persons, and *still he may not have shown it to another it is a common thing to say a foreigner* that the making of a similar machine was begun; but appears to me that the defendant has failed to prove that such a machine was generally known or generally used —

* *Ante*, page 105.

in England before the taking out of this patent by the plaintiffs.

His Lordship left it to the Jury to say whether the patent had been infringed, and, if so, the Jury would give such damages as they might think just.

Verdict for the plaintiffs.—Damages, 200*l*.

LEWIS AND ANOTHER *v.* MARLING.

In the Court of King's Bench.—Michaelmas Term, 1829.

THIS was an application by *Mr. F. Pollock*, on behalf of the defendant, for a new trial. In this case a verdict had been found for the plaintiff, with damages for 200*l*. It was urged, that the patent was void; that the specification tended to mislead, by describing the use of plush, and it was found to be useless; that shearing cloth with rotatory cutters was not new at the date of the patent; and that new evidence might now be brought to prove want of novelty in the invention.

Lord Chief Justice Tenterden.—I think that we ought not to grant any rule. As to the objection to the specification respecting the plush, it is not anywhere alleged that the plush is essential: and we find, that before this patent was granted, a brush was used. When the plaintiffs were applying for a patent, they had made a machine and put plush on it; but before they made any of the machines for sale, they had discovered that it was useless. If the plush had been mentioned as an essential part of the machine, and it had not been useful or necessary, the patent could not have been supported. With respect to the other point, it appeared that a model had been made, but still that model was not a machine; and we find that the possessor of it has bought these machines since, and that he never completed his machine according to the American specification. It therefore appears, that till the invention of the plaintiffs came out, there was not used and exercised in England any machine that would cut from list to list by rotatory cutters. If these plaintiffs had seen this model, or had known of it, the case would have been different; but the question is, whether, at the time of the patent, this machine was new as to the public use in England.

*In the question of
novelty, a public use
a model is not the
same thing as a
machine
But proof of an alleged
inventor having seen
a model before the date
of his patent might create
the evidence of his having
derived his invention from
that source.*

Mr. Justice Bayley.—I think there should be no rule. However, our refusing a rule will not hinder the defendant from applying for a repeal of the patent if he should be so advised. To support a patent it is necessary that the specification should make a full disclosure to the public. If the patentee suppresses anything, or if he misleads, or if he does not communicate all he knows, his specification is bad. So, if he says that there are many modes of doing a thing, when, in fact, one only will do, this will also avoid his patent; but if he makes a full and fair communication, as far as his knowledge at the time extends, he has done all that is required. Mr. Pollock objects to that part of the specification which relates to the use of the plush. Now at the period when this specification was made, the plush was in use, and there is no reason to believe that these patentees did not think it was a useful part of the machine. The patent is for an instrument where something of that kind was always thought material: and I am of opinion, that the subsequent discovery that the plush was unnecessary is no objection to the validity of the patent. If the party knew that it was unnecessary, the patent would be bad, on the ground that this was a deception: but if he thought it was proper, and only by a subsequent discovery finds out that it is not necessary, I think that it forms no ground of objection. Another ground of objection is this:—It is said that communications were made from America; if it had been shown that the plaintiffs had seen the model, and had borrowed from it, he would not have been the true inventor, and would, therefore, have misled the Crown: but if I make a discovery, and am enabled to produce an effect from my own experiments, judgment, and skill, it is no objection that some one else has made a similar discovery by his mind, unless it has become public. So, if I introduce a discovery, *bonâ fide* made, I may have a patent for it, though a person might have received privately a communication from abroad which would have enabled him to have made the machine. As to the affidavits, I do not think them sufficient to justify the Court in granting a rule.

Mr. Justice Parke.—I am of the same opinion. The first objection is, that this patent is for several things, and that one of them, though considered to be useful at the time, has since turned out to be useless. There is no

The description of a thing as useful at the time is not essential, in the absence of evidence that it was known to the patentee to be useless, is no objection to a Patent.

*No precedent for saying
that a part of an invention
turning out to be useless
with vitiate the whole
patent.*

case that decides, that if a patent be taken out for several things, and one of them turns out to be useless, the patent is, therefore, bad; though there are cases that decide that it is bad if one of the several things be not new. The stat. 21 Jac. I., c. 3, s. 6, makes it necessary that the invention should be new, but it does not require that it should be useful. The Crown has here granted a patent for fourteen years, upon certain conditions, and those conditions have been complied with. By the statute the Crown has power to grant patents to the true inventor and inventors of any manner of new manufactures within the realm, "which others, at the time of making such letters patent and grants, shall not use," "so as they be not contrary to law," &c. There was no proof at the trial of the use of this invention in England before the date of the plaintiff's patent; and there is no case where the patent has failed, unless the thing has been actually used; and no case requires that the invention should be useful in all its parts.

Rule refused.

CROSSLEY v. BEVERLEY.

In the Court of King's Bench, before Lord Chief Justice Tenterden and a Special Jury.—January 30, 1829.

Mr. Attorney-General (Scarlett), Mr. F. Pollock, Mr. Alderson, and Mr. Godson, for the plaintiff; and Mr. Brougham, Mr. Rotch, and Mr. Patteson, for the defendant.

This was an action brought by the plaintiff, the assignee of a patent granted to Mr. Samuel Clegg, on the 9th day of December, 1816, for "An improved gas apparatus."*

* The specification was as follows:—

"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I, the said Samuel Clegg, do hereby declare, that my said invention of an improved gas apparatus is ascertained and described by these presents, and the drawings hereunto annexed, and herein referred to by way of illustration and example.

"My improved gas apparatus is for the purposes of extracting inflammable gas by heat, from pit coal, tar, or any other substance from which gas or gases capable of being employed for illumination can be extracted by heat; for purifying the gas so obtained; and for measuring out and distributing it to lamps, lights, or burners, where

On behalf of the plaintiff, Mr. Faraday, Mr. Farey, Mr. Millington, Mr. Cooper, and other witnesses were

light or heat is to be produced by the combustion of the said gas. One part of my invention is an horizontal flat retort, in which coal, or other materials capable of producing inflammable gas, are heated, and the gas extracted by distillation. The fire by which this retort is to be heated is to be applied so as to heat certain parts of its capacity much more than others, so that some parts will thereby be heated to that degree which is proper for the complete extracting of the gas, whilst other parts of the capacity of the retort will be very slightly heated; and in some of these latter parts the door or opening through which the materials are to be introduced into the retort is to be situated. Within the retort a surface is to be provided, upon which the coal or other substance to be distilled can be spread in a thin layer, in a horizontal position, or nearly so; and the said surface must be capable of a motion within the retort, for the purpose of removing the coals or other materials from the cooler part of the retort, at which they are introduced into the same to the hottest part of the retort, where the gas will be extricated by the action of the fire. In this manner the coal will be heated slightly and dried previously to being subjected to the red or greatest heat, and from being spread thin, will require a less proportion of fuel to heat it, and the gas will be obtained in less time than by means of the retorts now commonly used to gas apparatus; also the coke which remains upon the moveable surface, after the gas shall have been extracted from the materials, may be removed from the hottest part of the retort to the cooler part near the entry door, at which it is to be withdrawn and replaced with fresh materials. Retorts upon this principle may be constructed of various forms, either circular or otherwise, with the bottom horizontal, or nearly so, and the motion of the surface upon which the materials are spread may be circular, upon a centre or otherwise.

"The manner of constructing a retort of a circular figure is explained by the figures hereunto annexed, 1, 2, 3, 4, and 5, and the references thereto: but be it observed, that although such a construction will effect all the purposes which I have stated, the form, proportions, and arrangements of its parts may be greatly varied and modified, according as circumstances or situation may require.

"Another part of my invention is an improvement in the purifying apparatus, to be placed in the vessels into which the gas from the retort is conveyed, for the purpose of being purified, by exposing it to the action of lime and water. The common purifying apparatus consists of a large vessel, closed on all sides, to receive the gas after it has been purified; within this is a smaller vessel, or lime-trough, open at top, to contain lime and water; and there is also a third vessel, or inverted trough, into which the gas is received immediately from the retort; this inverted trough is open at bottom, and the edge of the open part is immersed beneath the surface of the lime and water, which is contained in the lime-trough, so that the gas which is introduced into the last-mentioned inverted trough cannot escape therefrom, except by rising up through the lime and water. To facilitate this, holes or openings are made through the sides of the inverted trough, near the bottom edge thereof; which holes or openings are beneath the

called, who spoke of the various parts of the apparatus as offering valuable improvements in the manufacture of

surface of the lime and water contained in the lime-trough, so that the bubbles of gas are obliged to rise up through the same, and thereby become purified. This is the nature of the common purifying vessels, in which the said holes or openings become frequently stopped by the lime, unless water is mixed with it in sufficient quantity to render the lime completely fluid.

"My improved purifying apparatus, in addition to the above-mentioned parts, has a shaft or axis, furnished with teeth or projecting claws, and so applied within the interior inverted gas vessel, that it can be put in motion from the outside of the apparatus, and that its teeth when in motion will pass through, and scrape out, the said openings every time the axis is moved round. I also make the lime-trough moveable on a centre or axis in such manner as to be able to invert or incline it by a motion from the outside, for the purpose of discharging the lime which it contains into the bottom of the external vessel, from which it can be drawn out at pleasure. With this purifying machine I am enabled to employ lime-water, of semi-fluid consistence, like thick cream, in which state it is contained in so much less bulk, that after it has become impregnated with the foetid impurities, which it absorbs from the gas, it can be carried off from a manufactory without the difficulties which occur in getting rid of the disagreeable lime-water when it is quite fluid, as in the common apparatus.

"A purifying apparatus, fitted up according to my invention, and in which the teeth or claws which clear out the openings have a rotary motion, is shown in Figs. 6, 7, 8, and 9, and explained by the references thereto; but the same effects may be produced by giving a rectilinear motion to the teeth or claws, as it only requires the openings to be of a different form or shape.

"Another part of my invention is a gauge or rotative gas-meter for measuring out and registering the quantity of gas which passes through a pipe or opening, so as to ascertain the quantity consumed by any certain number of lights or burners. This gauge consists of a hollow wheel or drum, capable of revolving vertically upon pivots, in the manner of a water-wheel: the hollow rim of the wheel is made close on all sides, to form a circular channel, which is divided by partitions into certain compartments or chambers to contain the gas, which is introduced into the wheel through one end of its axis, and carried off from the wheel through the other end.

"By certain contrivances it is so arranged, that each of these boxes or chambers will be filled with gas from the entrance pipe, and emptied of the same into the exit pipe, every time the wheel makes a revolution, by which means the number of turns the wheel makes (when registered by suitable wheel work) become a record of the quantity or number of boxes full of gas which has passed through the gauge. The gas is conducted from the place whence it is supplied, and enters into the gauge through one end of its axis, and is conveyed into the chambers of the rim by certain hollow arms. The gas returns from the said chambers by certain other hollow arms, and is conveyed away through the opposite end of the axis of the wheel by the pipe which leads to the burners or place where the gas is consumed. No gas can pass from

gas. That a workman might perform this invention from the specification. The infringement complained of was

the pipe of entrance, at one end of the axis, and get to the pipe of exit at the other end of the axis, without entering into and filling the said chambers. A sufficient quantity of water is put into the hollow rim of the wheel, to fill a segment of the rim, rather larger in its capacity than one of the compartments into which it is divided; and there are passages of communication between the chambers through which this water can pass from one chamber into the next, but the gas cannot pass. It is evident, that the water from its gravity will always fill a segment in the lowest part of the wheel; and when the same turns round the water will occupy each of the chambers in succession as they arrive at, and during the time that each one continues at, the lowest part of the wheel. The pipes or hollow arms which convey the gas to the chambers are so contrived, that when the entrance pipe to any one chamber is open to admit the gas, the exit pipe from the same chamber will be shut or sealed up, and *vice versa*; and this opening and shutting of the passages into and out of any one chamber takes place at that period of the revolution of the wheel when the water in the lower part thereof is on the point of entering into or going out from the said chambers; that is to say, when the water at the lower part of the wheel is on the point of quitting any chamber, the pipe of entry shall be open to admit the gas into the said chamber, which gas expels the water from it through the passage of communication into the adjacent chamber, until the first-mentioned chamber becomes filled with gas, and the second-mentioned chamber becomes filled with water; at the same time the pipe of exit from the second-mentioned chamber is opened, and the water which enters from the first-mentioned chamber displaces the gas, and it passes off through the exit pipe.

"The machinery for counting and registering the number of revolutions made by the wheel may be constructed in any of the ways usually employed for similar purposes.

"It is not essential to this gauge that the exit pipe from the chambers be conveyed through the axis, the same effects may be obtained by enclosing the whole wheel within a close vessel or case, in which it can revolve freely, and allowing the gas to escape into the case from the chambers when the same are to be discharged; from this case the gas can be carried off by the exit pipe. The means of opening or shutting the passages of communication may be varied; it may be done either by valves, or by sealing the pipes with water or other fluid.

"A gas-meter is represented in Fig. 10, and explained in the reference thereto; also in Figs. 11, 12, and 13, another kind is represented, but the construction admits of great variation, provided the properties above enumerated are preserved.

"Another part of my invention is a self-acting governor, for regulating the efflux or discharge of gas through any opening or openings, or burners, at which the gas is to be burned, so that the gas shall always issue from the said openings or burners with an uniform velocity, or nearly so, notwithstanding any variations which may take place in the pressure which urges the gas to pass through the pipes of supply. The pipe through which the gas passes to the burners must have in some part of it an aperture, which is capable of being increased or diminished in its opening by a very slight force; and motion for diminishing

in respect to the gas-meter. It was proved by the plaintiff's witnesses that the apparatus was not suitable for making gas from oils and resinous matters, though their

or increasing the aperture is given by a small gasometer or inverted vessel, the mouth of which is immersed under water, and its interior capacity communicates with the pipe of supply beyond the part where the aperture for regulation is placed.

"The gasometer must be sufficiently loaded to retain the gas within it, at such a degree of compressure as will cause the gas to issue from the openings or burners with that degree of velocity which is necessary to support a required height of flame.

"Now, if the pressure of the gas in the pipe of supply is increased, it causes the gasometer to rise up more out of the water, and this motion is made to diminish the opening through which the gas passes, in such proportion, that the velocity with which it will flow or issue from the openings or burners, and consequently the height of the flame will continue the same, or nearly so: or, on the other hand, if the pressure of the gas in the pipe of supply is diminished, the gasometer will sink lower down into the water, and this motion is made to enlarge the opening a proportionate quantity, to effect the intended regulation.

"The gasometer or inverted vessel for this purpose may be made of a prismatic form, to rise and fall vertically in the water; or it may be made to rise and fall with a circular motion upon a centre; in either case it should give motion to a lever, and this lever should effect the regulation of the opening by a communication from a part nearer to the centre of its motion, in order to render the motion for the regulation very small. To make the aperture through which the gas is to pass capable of delicate adjustment, I make the said aperture in a vertical plane, or approaching thereto, in order that the lower side margin or boundary of such aperture may be formed by the horizontal surface of mercury, tar, water, or other fluid, which is contained in a cup or basin, suspended from the lever of the gasometer, near the centre thereof. In this way, when the ascent of the gasometer causes the cup to rise up, the surface of the fluid rises with it, and diminishes the height of the aperture through which the gas passes so as to contract the area thereof; and, on the contrary, by lowering down the cup, the aperture for the passage of the gas will be increased.

"One of the forms, among many others in which this governor may be constructed, is represented in fig. 14, and explained in the reference thereto,

"Having now ascertained my invention of an improved gas apparatus, and defined in what it consists, I shall proceed to describe the same, and to show, by the assistance of the drawings, in what manner it is to be performed; first observing that the said drawings represent the apparatus in its most complete state, but that the arrangements of the parts, and the construction of many of the minor parts, may be varied and modified according to the situation in which the apparatus is placed, and the circumstances governing the same, without at all deviating from my invention, as I have defined the same."

[The specification then proceeds to explain the details of the apparatus with reference to drawings, but which description is not necessary to the understanding of the case, and is therefore not inserted.]

use in the manufacture of gas had then lately been introduced, it was doubtful whether its use would become general. Mr. Clegg, having parted with all interest, was called, and spoke to all parts of the invention. In cross-examination, he admitted that he had not matured the gas-meter when he took out his patent, but that he had in his mind the general idea and arrangement thereof, and that he had completed the apparatus during the time allowed for enrolling the specification. The description of meter complained of was one invented by a Mr. Malam, and for which he had received a reward from the Society of Arts. In this apparatus the hollow axis described in the plaintiff's specification was dispensed with, and the arrangement very much simplified: in fact, the plaintiff worked according to this arrangement himself, and it was objected that the original apparatus, as specified, had failed, but the evidence showed that it worked well, though it was expensive and liable to be out of order; that the new apparatus was a great simplification and improvement, and that it contained the essence of the patented meter, that of a divided wheel revolving below water, having gas introduced into the spaces between the divisions. The evidence of the practical witnesses, proved that persons acquainted with gas works would know that a condenser was to be used, and that they would not be misled by the patentee not mentioning that apparatus in his specification.

Mr. Brougham called his Lordship's attention to the words of the specification, where it was stated that the apparatus was for making gas "from pit-coal, tar, or any other substance from which gas or gases, capable of being employed for illumination, can be extracted by heat;" and the Learned Gentleman argued, that as the apparatus was not suitable for using oil, the patent was bad.

Lord Chief Justice Tenterden.—In reading this specification, it is clear that the words "other substance," coupled with the words "pit-coal and tar," mean, other substance *ejusdem generis*. *Comprehending "other substances" to be taken as implying substances of the nature with those spoken of in the context.*

Mr. Brougham.—The patent is for gas to be produced from pit-coal, tar, or any other substance which produces an inflammable gas. Now, that is certainly the case with oil.

Lord Chief Justice Tenterden.—One must understand this person to speak of those things which were known

and used at the time. He could not possibly mean oil gas, it had never been used, because of the great expense; and this man must really have had the gift of prophesy to have found out that oil gas ever was to be employed in lighting the streets.

Mr. Brougham.—There is nothing to prevent a person who sees this specification from considering that oil gas was meant to be included in it, as it was well known that it was possible to produce gas from oil.

Butter's language must be tried by the light of knowledge current at the time

Lord Chief Justice Tenterden.—I must understand this party to speak as a practical man, and to speak with reference to those things that were then known and in use.

Mr. Brougham.—The things comprised in the specification will not make a gas apparatus. It will be incomplete for want of a condenser.

Lord Chief Justice Tenterden.—A workman, who is capable of making a gas apparatus, would know that he must put that in.

Mr. Brougham.—The specification does not direct it to be put in.

Butter's language must be tried by the light of knowledge current at the time

Lord Chief Justice Tenterden.—No; but it does not tell you to leave it out. There is nothing in that.

Mr. Brougham then addressed the Jury. He contended that the defendant had not infringed the patent. It was necessary that the plaintiff's machines should have hollow axes for the passage of the gas to the wheels, so said the specification; the defendant's machines had no such hollow axes. Then the plaintiff had not described the use of a condenser, the apparatus for making the gas would therefore fail; it was not enough to say that a person knowing the requirement would supply it, the specification ought to have shown it. The patentee had taken his patent amongst other parts of apparatus for a retort for making gas from any materials, and it was proved to be useless for making gas from oil, and therefore the patent was void.

His Lordship was about to address the Jury, when they stated they were satisfied, and found a verdict for the plaintiff.

CROSSLEY v. BEVERLEY.

In the Court of King's Bench, before Lord Chief Justice Tenterden, Mr. Justice Bayley, Mr. Justice Littledale, and Mr. Justice Parke.—Easter Term, 1829.

Mr. Brougham applied for a rule to show cause why a new trial should not be had in this case. It was proved at the trial that Mr. Clegg, the patentee, had not invented some of the parts of the apparatus described in the specification when he took out his patent. That the specification contained various matters which were not invented at the date of the patent, and therefore the patent was void. When the patent was granted the inventor, according to his own statement, had only a general idea of the arrangement of parts of the apparatus, and that the working out his ideas was after the patent. The Learned Gentleman contended that the patent was there-
fore void. no!

Lord Chief Justice Tenterden.—It appears that the patentee's mind was directed to the invention before the patent, and that, in the interval between the taking out of the patent and the enrolling of the specification, he perfects it in some of the mechanical parts. The question is, will that make his patent void? No case has been so decided, and it would be a very great hardship if it were so. Indeed, I do not see why any time is allowed to the inventor to prepare his specification, unless it be to allow him to mature the mechanical parts of his invention. *It is made in an invention between the date of seal & when no objection to patent is given to prepare in the most perfect manner.*

Mr. Justice Bayley.—It is not only the duty of the inventor to state what he knew at the time of the patent, but the public have a right to be put in possession of all that he knows at the time of the specification. *public entitled to be told all that patentee knows at time of specification*

Mr. Justice Littledale.—It must be some very strict technical rule to defeat this patent, and I see no reason for extending the doctrine already laid down. There has been no deception practised, and the public ought to have the advantage of the improvements up to the time of the specification. *no deception in making spec more perfect than it could have been at the date of the patent*

Mr. Justice Parke.—I concur in what has been said.
Rule refused.

CROSSLEY v. BEVERLEY.

*In the Court of Chancery, before the Lord Chancellor (Lyndhurst).—
December 4, 1829.*

THE bill having stated the plaintiff's title, and the result of the proceedings at law in the preceding action, alleged, that communications had taken place between the parties respecting coming to an account as to the gas-meters made and sold, and now on hand in a finished or unfinished state; but that no satisfactory account had been received, and that defendant still had in his possession or power a large quantity of gas-meters, finished or unfinished, and which he intended to sell for his own profit, and prayed an injunction.

It was suggested that the defendant had a large stock of gas-meters, which, on the expiration of the patent in a few days, would be thrown on the market.

Injunction granted.

FELTON v. GREAVES AND ANOTHER.

*In the Court of King's Bench, before Lord Chief Justice Tenterden
and a Special Jury.—June 6, 1829.*

THIS was an action brought by the plaintiff to recover damages from the defendant, for infringing a patent granted 28th June, 1827, for "A machine for an expeditious and correct mode of giving a fine edge to knives, razors, scissors, and othercutting instruments."*

* The specification was as follows:—

"To all to whom these presents shall come, I, John Felton, of Hinckley, in the County of Leicester, Machine Maker, send greeting.—Whereas his present Most Excellent Majesty King George the Fourth, by his letters patent under the Great Seal of Great Britain, bearing date at Westminster the twenty-eighth day of June, in the eighth year of his reign, did, for himself, his heirs, and successors, give and grant unto me, the said John Felton, my executors, administrators, and assigns, or such others as I, the said John Felton, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should, and lawfully might make, use, exercise, and vend within England, Wales, and the town of Berwick-upon-Tweed, and

Sir J. Scarlett (Attorney-General), Mr. Brougham, and Mr. Rotch, for the plaintiff; Mr. J. Williams and Mr. Milner, for the defendants.

also in all his said Majesty's colonies and plantations abroad, my invention of 'A machine for an expeditious and correct mode of giving a fine edge to knives, razors, scissors, and other cutting instruments,' in which said letters patent is contained a proviso obliging me, the said John Felton, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said invention, and in what manner the same is to be performed, and to cause the same to be enrolled in his said Majesty's High Court of Chancery within two calendar months next and immediately after the date of the said recited letters patent, as in and by the same, reference being thereunto had, will more fully and at large appear.—Now know ye, that in compliance with the said proviso, I, the said John Felton, do hereby declare the nature of my said invention to consist in a machine for sharpening various cutting instruments, and particularly knives, by passing their edges backwards and forwards in an angle formed by the intersection of two or more circular files or other suitable surface, in manner hereinafter explained. And in further compliance with the said proviso, I, the said John Felton, do hereby describe the manner in which my said invention is to be performed by the following description thereof, reference being had to the drawing annexed and to the figures and letters marked thereon (that is to say):—

Description of the Drawing.

" Fig. 1, represents one of my said machines adapted for the sharpening of table-knives; A, is the pedestal; B, B, two uprights; C, C, two steel cylinders or rollers, turned down or reduced at the parts marked, r, and revolving easily on axes at their ends, bearing in the uprights, B, B; the larger parts of the cylinders or rollers, and which are marked s, are grooved or grained in a circular direction by means of an ordinary engraver's shaver, and thus have a surface given to them something like the sort of file which is generally called a float; the dotted lines represent the position in which the knife or other cutting instruments are to be placed for the purpose of being sharpened, and it only requires to be passed a few times to and fro in the position here shewn to effect this purpose. †

" Fig. 2, is a plan of the said machine, showing the relative situation of the cylinders, C, C, and the manner in which the larger circles or circular bosses, marked s, intersect each other.

" Fig. 3, is a transverse section of the said machine. Now whereas the cylinders may be made of steel or any other suitable metal or hard material, and the surfaces of the circular bosses may be engraved or otherwise brought to a fine or rough state according to the delicacy of the edge required, and the slit, marked, f, in the drawing, may be varied in shape the better to hold whatever form of instrument it may be required to sharpen. But I claim as my invention the machine hereinbefore described for the purposes aforesaid, and such machine being to the best of my knowledge and belief entirely new, and never before used within that part of his said Majesty's United Kingdom of Great Britain and Ireland called England, his said dominion of Wales, or town of Berwick-upon-Tweed, nor in any of his said Majesty's colonies or

Evidence was given by the plaintiff that the invention was new and useful, and that the machine had come into extensive use. Some of the witnesses, however, stated that the machine shown and described in the specification was wholly inapplicable for sharpening scissors: in fact, the cutting-edges of a pair of scissors could not be introduced between the guiding surfaces at the ends, which were suitable only for table knives; and that, in order to make a machine suitable for scissors the guiding-surfaces on one side must be changed, and the intersecting files on one side should be removed in order that the cutting-edges of scissors should not be sharpened on both sides. If Turkey-stones were used on both sides of scissors that would not be objectionable, but the end-guides must be altered to receive and guide the scissors—that the specification gave no instructions for such alterations.

Mr. J. Williams submitted to his Lordship that on this evidence the patent was bad: a party taking out a patent for a machine to accomplish several things was bound so to describe the machine in his specification; that if it required alterations for performing some of its purposes, that the workman's attention should be called to those alterations, but on those points the present specification was silent.

Lord Chief Justice Tenterden.—I am of opinion that this objection must prevail. The specification describes both the rollers as files, and, on reading it with attention, I cannot find that the scissor-sharpener is described as having the two rollers different. It appears to me, therefore, that the specification is insufficient, as it nowhere states that the rollers for scissors must be one rough and the other not. With respect to constructing the rollers with Turkey-stone, I cannot find that it is anywhere stated in the specification, that Turkey-stones used on both sides will do for scissors. The plaintiff must be called.

Nonsuit.

plantations abroad, I do hereby declare this to be my specification of the same, and that I do verily believe this my said specification doth comply in all respects fully, and without reserve or disguise, with the proviso in the said hereinbefore in part-recited letters patent contained; wherefore I do hereby claim to maintain exclusive right and privilege to my said invention.—In witness whereof, I, the said John Felton, have hereunto set my hand and seal this thirtieth day of July, in the year of our Lord one thousand eight hundred and twenty-seven.

"JOHN FELTON."

I then must not describe nothing as applicable to a number of articles unless it be really so to each. I think change to singular it so many as articles.

BEESTON v. FORD.

*In the Court of Chancery, before the Lord Chancellor (Lyndhurst).—
December 22, 1829.*

THIS case arose upon an application for an injunction, which had been dissolved by the Vice-Chancellor, on cause being shown against it by the defendant. The merits of the case were as follows:—

The plaintiff was the assignee of a patent for improvement in ships' cabooses, and it appeared that the patentee and his assignees had enjoyed the exclusive use of the invention for about seven years. It was shown that the defendant had made an alteration, by which, instead of the fire-place being open, and capable of being closed by an iron plate with hinges, a fixed iron plate was substituted, and the fire-place was fed by means of a funnel. In other respects the machines corresponded; evidence was given to show the invention was not new.

His Lordship, in giving judgment, said:—The plaintiff ought to be considered as having enjoyed the patent up to the present time. The rule of law in these cases has been laid down by Lord Eldon to be, that where a patentee has for a number of years enjoyed the exclusive possession of a patent, the Court will not allow that possession to be disturbed, and will grant an injunction until the trial at law, whatever doubt there may be as to the validity of the patent. On the other hand, if such possession cannot be proved, the Court will not grant its protection, but will send the parties to a court of law to decide the question. In *Hill v. Thompson* and *Forman*,* and in other cases which have been cited at the bar, Lord Eldon had repeated this rule, and had acted upon it. The question, Lord Eldon had observed in one of these cases, was not merely between the parties on the record, for unless the injunction were granted, any person might violate the patent; and the consequences would be, that the patentee must be ruined by litigation. For this reason, although there was great doubt, in the case of *Boulton* and *Watt v. Bull*,† the injunction was granted until the right of possession could be tried, and directions were given to have the question tried speedily. The present

In granting the rule is not to disturb possession of patent after its enjoyment for a number of years, but to grant the injunction before the trial at law respecting validity of patent.

* *Ante*, p. 369.

† *Ante*, p. 155.

case, therefore, relating to an invention which has actually been enjoyed seven years, it appears, upon the authorities referred to, that the possession ought not to be disturbed. I cannot but entertain great doubt whether this specification will be supported. It includes a new and an old machine, and the improvement ought to have been much more minutely and accurately pointed out. I doubt, too, whether that part of the invention which is claimed as a novelty, as to constructing the covers to the boilers, is a new invention. Its application to ships' cabooses may, however, be novel. The infringement is well established, supposing the patent can be supported. The machine appears to be accurately enough described. It is not, however, my province to decide the validity of the patent on the ground I have alluded to; I must therefore order the injunction to be revived. Some arrangement should be made for the speedy trial at law of the patent-right; I therefore order the declaration to be delivered before the essoign-day of the next Term, and that the trial shall be in the Court of Common Pleas.

Injunction revived accordingly.

LORD COCHRANE AND GALLOWAY v. BRAITHWAITE and ERICSSON.

*In the Court of Chancery, before the Lord Chancellor (Lyndhurst).—
June 30, and July 31, 1830.*

APPLICATION was made for an injunction to restrain the defendants from using and putting in practice an invention, for which the plaintiffs had obtained a patent on the 4th day of May, 1818. The defendants had also obtained a patent in 1829, for their invention, which was intended to accomplish that which the defendants said the plaintiffs had been unable to do by the means set out in their specification. It was also contended that the plaintiffs' invention had failed, as was evidenced by the circumstance, that although the patent had been granted ever since 1818, the plaintiffs had not brought it into public use; and that it was only by making the improvements of the defendants that steam boilers had been brought to succeed; and since the successful working by the defendants, and only within a

few months of the application to the Court, had the defendants in any way brought their invention into use, and then only an imperfect use.

The Lord Chancellor, in giving judgment, said:—I have read the affidavits in this case made on the part of the plaintiffs, in consequence of an intimation from the Court, that it was desirable to know what had been done by the patentees in exercise of the patent which is said to be infringed. These affidavits do not substantiate the statement of counsel in argument, for it turns out that the patentee only applied the invention claimed to the construction of steam-engine boilers about six months ago. Whereas Mr. Braithwaite, the defendant, has been in the actual enjoyment of his patent, and has made boilers for steam-engines, upon the plan described in his specification, for a period of more than eighteen months. Under these circumstances, I think it is not a case for an injunction, but that the parties should be left to their legal remedies. I must, therefore, refuse this motion, and shall reserve the consideration of costs until the result of the proceedings at law.

Injunction refused accordingly.*

LORD COCHRANE AND GALLOWAY v. BRAITHWAITE AND ERICSSON.

In the Court of King's Bench, before Lord Chief Justice Denman and a Special Jury.

THIS was an action to try the validity of a patent granted to the plaintiffs, the defendants having made and sold steam-engine boilers, which the plaintiffs considered were according to the invention for which their

* This case came on subsequently for trial in the Court of King's Bench before Lord Tenterden and a Special Jury, when his Lordship directed the Jury that the use of the valve in the plaintiffs' patent was essential, and as the defendants used no valve to restrain the passage away of the air and products from the fire, there could be no infringement. On application a new trial was granted, the Court thinking that his Lordship should not have so directed the Jury. There having been no other point of importance raised in the first trial, it is not thought desirable to report that case.—W. C.

patent was granted. The whole question turned on what was the proper construction to be put on part of the plaintiffs' specification. The plaintiffs' invention was described to consist in so forming the furnace of a steam-engine boiler, that the whole should be closed, ash-pit and all, in such manner as to receive air under compression, the products of combustion getting away only by overcoming an impediment in the flue or chimney.*

* The Specification was as follows:—

"To all to whom, &c., Now know ye, &c.—Our said invention consists of making and forming a machine or machines for the heating of boilers, and may be denominated improved air-tight stoves, furnaces, or fire-places, into which coals or other combustible and inflammable substances shall be used to generate and convey heat, by the ignition and combustion of coal or other fit substance; and which air-tight stoves, furnaces, or fire-places must be composed and formed of any suitable materials, and with means which will permit the entrance and prevent the escape of any atmospheric air or gas into or from such stove, furnace, or fire-place, but at the situation or situations formed for the introduction and exit of such air or gas; by means of pumps, valves, or other suitable machinery, which shall be capable of supplying any such stoves, furnaces, or fire-places, with any required quantity of atmospheric air, to keep up the ignition of any fuel or combustible substance; and at the same time to force out of any such stove, furnace, or fire-place, any smoke or gas so generated against any required resistance or pressure.

"Our invention is of a three-fold character—the first part of it is for removing the inconvenience of smoke or gases generated in stoves, furnaces, or fire-places, by the ignition or combustion of coals or other inflammable substances; the second part is in certain cases for directing the heat so generated; and the third part is for applying such smoke or gas to various useful purposes hereafter to be explained.

"These said branches or parts of our invention may be applied collectively, or so much of them as may be required, under a great variety of modifications, which will be familiar to any competent workman constructing such works.

"In figs. 9 and 10, are views of machines for forming air-tight stoves, furnaces, or fire-places, for heating boilers for generating steam, with the apparatus for blowing in compressed air into the fire-place, and for condensing and dissipating, and thereby removing, the inconvenience and annoyance of smoke and gases generated in any air-tight stove, furnace, or fire-place, but without applying such smoke or gas to any useful object, and which are applicable to any land situation, but of such dimensions and modifications as may best suit the particular convenience of the employment and place to which they are to be applied.

"*AAAA*, show an air-tight, horizontal, and vertical stove, furnace or fire-place, with its flues to heat a boiler for generating steam, or for such other purposes to which it may be found convenient to apply the action of heat. *B*, is the pipe through which a supply of atmospheric air is conveyed by means of a pump or pumps, or other instrument for forcing air into the fire-place to keep up the combustion of any fuel

The defendants made boilers having a closed fire-place and ash-pit, into which air was blown, as in the plain-

previously ignited. In the pipe, *B*, is contained a metal valve, which shuts against its seat by the pressure of the smoke from the fire, and opens by the force of the atmospheric air conveyed from the pump or other proper instrument employed to blow in the air.

"The pipe, *B*, may either discharge its supplies of air by being introduced under or upon the ignited fuel of the horizontal fire, or be conveyed into any convenient part of the vertical fire-place; or if more than one pump is employed for this purpose, then the air may be blown into both fires at once, as circumstances may point out. *C*, is the plate or valve by which the smoke, gas, and heated air are compressed, according to the pressure placed on such plate or valve either by any weight or fluid, or by any other known means of producing any required resistance. The opening or rising from its seat of the valve or plate, *c*, allows the escape of the smoke, gas, and heated air, when the inflammable parts of the smoke shall have been subjected to any required degree of exhaustion, according to the resistance made to their escape.

"The reservoir or vessel, *D*, receives and encloses the end of the pipe which forms the seat of the valve, *c*, and is made to contain the required quantity of water that shall be sufficient to perform the double object of confining the smoke until it is deprived by the action of the fire of any required quantity of its combustible properties; and in its exit and passage through the water it is cleansed of some of its mucilaginous properties, and in such a purified state it may either be collected for any useful object, or it may be allowed to escape into the atmosphere without creating the inconvenience and annoyance generally experienced from the exit of foul smoke from any ordinary chimney, particularly from those chimneys employed for the use of steam-engines. *E*, is the iron door to shut off the fire, and the ash-pit, *G*. *F*, is the metal chamber which encloses the fire-doors, *H*, and the ash-pit, *G*, and which must be made perfectly air-tight when its cover, *I*, is shut into its mouth, *K*.

"This mouth, or curved orifice, in the chamber, *F*, furnishes, when it is open, an introduction to the doors of the fire and ash-pit. The spherical cover, *I*, must be fitted and ground correctly air-tight into the mouth of the chamber, *F*, and which is kept in that state by the pressure of the screw, *J*, and by which means the atmospheric air is prevented entering into the fire or the ash-pit, through the door, *E*. The smoke, gas, or heated air, are equally secured from escaping through the doors of the fire and ash-pit.

"*K*, is the iron bridge which swings on its pivots, and which is connected to the chamber, *F*, and into which the screw, *J*, works by its lever, *L*, and by a few turns of which screw the cover, *I*, is permitted to move out of the way of the orifice or mouth of the chamber, and thereby gives a free entrance into it when required.

"*M*, *N*, are metal tubes of sufficient length to prevent the action of the fire from injuring the strong glass or glasses that is to be fixed in them for viewing the fire, and of such a diameter as will afford a general survey of the fire; these tubes, with their glasses, must be made air-tight, and fixed securely in the spherical cover, *I*, opposite the apertures made in the fire-doors to view the fire.

tiffs; but in place of using a valve at the end of the flue or chimney, the defendants made their flue diminish in

"*n*, is an iron rake, with a shifting handle, and a roller or feet placed at the bottom to prevent the teeth of the rake from falling entirely out of the fire-bars, although it is desirable that they should be as low as possible; and it is necessary, when this rake is not in use, that it should be kept in the recess made for it in the ash-pit at *d*, and which is introduced into the ash-pit for distributing the fire, and for clearing the bars on which the fire is placed; which rake moves in a ball and socket stuffing-box, *o*, inserted in the cover, *r*. By this means the fire is raked without opening the cover, and without sustaining any loss of the compressed air with which the fire and ash-pit are supplied.

"*r*, is a metallic magazine placed at the top of the vertical fire, and surrounded with a case or reservoir for holding of water to keep the reservoir from becoming too warm, and from which the boiler may be supplied with warm water as fast as the reservoir is fed with cold water, and which magazine, *r*, may be made to contain any required supply of unignited fuel, and which magazine must be made air-tight in all its parts.

"*q*, is the frame or mouth of the magazine through which the fuel is to be conveyed into the interior of it. *r*, is the air-tight cover or plate, which by the pressure of the screw, *s*, working through the swinging-bridge, *t*, forces down the cover, *r*.

"Near the bottom of the magazine, *r*, is placed a valve or door, *v*, with an axle through or across its centre, after the manner of a throttle-valve of a steam-engine, as respects the axle of the valve or door; one-half of which valve or door will rest when closed, on the lower part of the seat, *w*, *w*, while the other half of the valve or door rests on the upper part of the seat.

"The form of the valve-seat as shown at *w*, *w*, will be found to be very convenient, as by its angular shape no coals or other fuel will lay upon it to obstruct the shutting of the valve or door *v*, which is performed by the motion of a handle.

"The object of this valve or door is not only to shut off the unignited fuel from the vertical fire, but to allow the magazine, *r*, to be replenished with fuel as often as required without permitting any considerable escape of smoke, gas, or heated air; and when the cover, *r*, is closed or shut, then the valve, *v*, may be opened whenever the fire shall require any additional supply of fuel; and when it is so opened, the cover, *r*, must completely prevent the escape of any smoke, gas, or heated air, through the magazine, *r*.

"*r*, is a chimney of any required height, issuing from the top of the boiler, and in connexion with the flue with its cover, *z*; its screw, *e*, the bridge, *f*, in which the screw works, and the lever, *g*, by which it is moved. This chimney may be used for carrying off the smoke when the fire is first lighted, and when the valve or cover, *r*, is opened to admit freely and copiously the atmospheric air under the fire.

"When the stove, furnace, or fire-place of the boiler is so used then it is a fire on the common principle, and when used in that state it forms no part of our invention; but when the covers and valves, *r*, and *z*, with either the cover, *r*, or the valve, *v*, are shut by any sufficient machinery, and rendered air-tight in those parts, and a full supply of atmospheric air forced into the fire at the place or places assigned for

diameter so as to retard the passage of the air and products of combustion passing so freely as if the flue continued of the same diameter all the way. Many witnesses were called on the part of the plaintiffs, who all stated that the great object and end of the plaintiffs' inven-

its entrance, then such a change and combination in the machinery puts this part of the principle of our invention in full force.

"A fire-place and its apparatus, thus arranged, will produce not only a saving of fuel, by extracting a greater quantity of combustible material from the fuel, but will direct the heat to the object of its application more effectually than hitherto done, and will at the same time, remove the inconvenience and annoyance sustained from the issue of large quantities of foul smoke as at present experienced from ordinary fires and chimneys employed for the heating of boilers.

"Figure 10, shews a view of a boiler, flues, &c., similar to the boiler, flues, &c., shown in figure 9, but fitted to a ship or vessel, and from which the smoke, gas, and heated air are permitted to escape for dissipation through the side of such ship or vessel into the water, at such a depth from the surface as may be necessary. The smoke-pipe or horizontal chimney, *a*, leading from the boiler, *a*, contains the valve, *c*, which opens by the pressure of the smoke, and is shut by that of the water. The pipe or chimney, *a*, is surrounded, and the valve, *c*, guarded by the metal case or pipe, *d*, *d*, which connects to the boiler, and is made water-tight and of such dimensions as shall contain a sufficient quantity of water to keep the case or pipe, *d*, *d*, so cool as not to injure the timber of the vessel with which it comes immediately in contact. The pressure on the valve *c*, is regulated by its area, and the height of the external column of water bearing on the valve, and according to which pressure must be the force of the compressed atmospheric air, necessary to feed the fire in which the smoke is generated.

"Another feature of novelty proposed in the latter part of the specification is to conduct the heated air or gas from the flue into the box of the paddle wheel, for the purpose of assisting in propelling the vessel, but we consider there are some practised objections to the employments of this contrivance, and as it does not bear upon the parts said to be infringed, we have omitted it.

"The abstract parts, or the combinations of machinery, by which we construct our air-tight stoves, furnaces, or fire-places, we do not claim, but as they are necessary as means, to effect the object of our invention: these objects may also be effected and produced by other abstract parts and combinations of machinery, not explained or described either in this specification, or in the drawings annexed; but yet such alterations may be made embracing the principles of our invention that may be a different modification of them, and yet be substantially in their effects and principles our invention; which is for the working or making a manufacture, being a machine or machines for removing the inconvenience of smoke or gases generated in stoves, furnaces, or fire-places, by the ignition or combustion of coals or other inflammable substances; and in certain cases for directing the heat, and applying such smoke or gases to various useful purposes.—In witness, &c.

"THOMAS COCHRANE,
"ALEXANDER GALLOWAY."

tion was so to prevent the air and products of combustion passing away from the fire freely, that air should be at all times in a state of compression in the ash-pit and fire-place, and that although the plaintiffs had shown and described a valve as the retarding means, the specification was not confined thereto; but the specification claimed the retarding the escape of the products from the fire, so as to keep the air and products of combustion in a state of pressure greater than the external atmosphere, and whether it was done by a valve or by contracting the outlet, it was in no way material.

On the part of the defendants it was contended that the plaintiffs' invention was for the use of the valve; and as no valve was used by the defendants, there could be no infringement. And several witnesses were called, who spoke to the difference of effect which resulted from the use of a valve and a contracted passage: the first would emit the products suddenly at intervals, whilst the contracted passage was uniform in the delivery of the products passing from the fire. But most of their witnesses agreed with plaintiffs' witnesses that the object of both plaintiffs' and defendants' inventions was to keep the air under compression in the ash-pit and furnace. It was proved that the defendants had taken out a patent on the 31st day of January, 1829, for making the passage contracted as a means of retarding the passage of air, &c., and that the defendants were working according to their patent.*

In reply, the Counsel for the plaintiff contended that it was not material whether the defendants had or had not

* The Specification was as follows:—

"To all to whom these presents shall come, &c. &c.—Now know ye, that in compliance with the said proviso, we, the said John Braithwaite and John Ericsson, do hereby declare the nature of our said invention to consist in generating steam in a boiler wherein the capacity of the flue is too small to allow a sufficient quantity of heated air to pass through it in a given time, by the mere agency of what is commonly called atmospheric draught, and to which flue, therefore, we attach either an air-forcing apparatus at the furnace end, or an air-exhausting apparatus at the other end of the flue; in order, by these mechanical means, to compel the required quantity of heated air to pass through the flue in a given time, whereby we are enabled to expose a given surface of flue to such a quantity of caloric in a given time as will generate more steam than has ever before been produced in an apparatus of equal capacity, and thus effect a great saving in fuel, and greatly diminish the size and weight of a boiler. And in further compliance with the said proviso, we, the said John Braithwaite and John Ericsson,

a patent, they had no right to use the plaintiffs' invention without license. It was possible that the defendants'

do hereby describe the manner in which our said invention is to be performed, by the following description thereof, reference being had to the drawing annexed, and to the figures and letters marked thereon (that is to say) :—

Description of the Drawing.

" Fig. 1, is a section of a boiler for generating steam, according to the method which we claim as our invention, and through the flue of which the heated air is drawn by means of an air-exhausting apparatus, which apparatus, for the purposes of this invention, we call an air-suction pump. A, A, A, is the outer casing of the boiler; B, is the safety-valve, and C, the steam-pipe; D, is the furnace; E, one of the furnace-bars; F, the ash pit; G, the furnace-door; H, H, H, three air-cocks to admit atmospheric air to the top of the fuel in the furnace; J, an air-cock to admit atmospheric air to the bottom of the said fuel; K, K, K, the flue gradually diminishing in diameter from the furnace, in proportion as the heated air, cooling in its passage through the flue, gradually requires less vent, while another advantage of this form is, that the dust and dirt from the furnace has a constantly descending passage to escape at, which, together with the relative position of the different lengths of the flue being immediately under each other, prevents any inconvenience from dirt collecting in it. L, is a double action air-exhausting pump, which we call the air-suction pump; and it is evident that if this pump be worked, any given quantity of heated air may be drawn through the flue from the furnace in any given time, proportioned to the action of the pump, the number or size of the air-cocks, and the general dimensions of the apparatus.

" Fig. 2, is an end elevation of the boiler just described.

" Fig. 3, is a section of a boiler for generating steam, according to the method which we claim as our invention, and through the flue of which the heated air is forced by means of an air-forcing apparatus, which apparatus, for the purposes of this invention, we call an air-forcing pump. A, A, A, A, is the outer casing of the boiler; B, the safety-valve; C, the steam-pipe; D, the furnace; E, a fire-bar; F, the ash-pit; G, a hopper for feeding the furnace with fuel; H, an air-pipe furnished with a regulating cock, M, through which atmospheric air is forced on to the top of the fuel; and J is another air-pipe, also furnished with a regulating cock, N, through which atmospheric air is forced to the bottom of the fuel. P, is an air-forcing apparatus, which we call an air-forcing pump, furnished with valves as here shown, and an air regulator, R, being a board enclosed in a leather case, and acted upon by the weight, S. It will be evident that this boiler, as far as the principle of our invention is concerned, will produce the same effect, in generating steam as that first described, the difference in them being merely in the mode of obtaining the required velocity for the heated air in its passage through the flue; but it is worthy of remark, that the modifications necessary to the adaptation of the principle of our said invention to these two forms of boilers, renders them respectively the better available for different purposes.

" In fig. 1, it will be observed that the furnace is horizontally placed, and may be fed from a door in front, as at G, in the ordinary way, while

means of accomplishing the result were better than the plaintiffs', as described in their specification; this might justify the second patent and support it, but then they should come to the plaintiffs for a license to use means of retarding the passage of the air from the fire, that was the plaintiffs' patent; the specification pointed out one means which had been fully proved would answer in practice; the defendants had only varied the means, but not the general proposition or principle of the patent.

Lord Chief Justice Denman having read over the evidence to the jury, said:—*Lord Tenterden*, in the former instance, nonsuited the plaintiffs from an idea at that time that the valve at the extremity of the flue was the essential feature of the plaintiff's invention, and that as the defendant did not use a valve it could not be said that the two machines were similar, but I do not consider such valve an indispensable condition of the plaintiff's invention, and such was the opinion of the Court, when a new trial was directed. The plaintiff, in his specification, says, "c, is the plate or valve by which the smoke, gas, and heated air are compressed, according to the pressure placed on

in fig. 3, the furnace is vertically placed, and must be fed from a hopper, as shown in the drawing.

"Now, whereas we claim, as our invention, the converting of liquids into vapour or steam, by means of a boiler, wherein the capacity of the flue is too small to allow a sufficient quantity of heated air to pass through it in a given time by the mere agency of what is commonly called atmospheric draught, and to which, therefore, either an air-exhausting apparatus, or the air-forcing apparatus hereinbefore described is applied for that purpose; it being our intention to claim as new the application of an air-exhausting apparatus generally for such purpose, and the particular air-forcing apparatus hereinbefore described, whereby, as well as in the air-exhausting apparatus, the fuel is supplied with air both above and below, as shown in the drawing annexed; which double supply of air, regulated by cocks as aforesaid, we claim also as new. And such our invention, being, to the best of our knowledge and belief, entirely new, and never before used within that part of his said Majesty's United Kingdom of Great Britain and Ireland, called England, his said dominion of Wales, or town of Berwick-upon-Tweed, nor in any of his said Majesty's colonies or plantations abroad; we do hereby declare this to be our specification of the same, and that we do verily believe that this our said specification doth comply, in all respects fully and without reserve or disguise, with the proviso in the said hereinbefore in part recited letters patent contained, wherefore we hereby claim to maintain exclusive right and privilege to our said invention.

"In witness whereof, &c.

"JOHN BRAITHWAITE,
"JOHN ERICSSON."

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such plate or valve, either by any weight or fluid, or by any other known means of producing any required resistance."

All that seems indispensable is, that the required resistance, the necessary degree of compression, should be produced, and if that could be obtained by narrowing the outlet as well as by a weighted valve, I think such mode of effecting the object must be held as being covered by the words "any other known means of producing any required resistance." Several of the defendants' witnesses have given it as their opinion that an apparatus constructed in the manner set forth in the plaintiffs' specification would not work, but I do not think any mere opinion of this sort is to be put in competition with the positive testimony of such men as Brunel, Bramah, Birkbeck, Turrell, and Partington, who all swore that they had actually seen the plaintiffs' apparatus at work.

The Jury found for the plaintiffs.

HULLETT v. HAGUE.

In the Court of King's Bench.—Easter Term, May, 5, 1831.

At the London sittings after last Hilary Term, an action was tried before Lord Chief Justice Tenterden and a special jury, and a verdict was found for the plaintiff.

The action was brought by the plaintiff as assignee of a patent granted to a Mr. Kneller, on the 27th day of November, 1828, for "Certain improvements in evaporating sugar, which improvements are also applicable to other purposes." *

* The specification was as follows :—

"To all to whom these presents shall come, &c. &c.—Now know ye, that in compliance with the said proviso, I, the said William Godfrey Kneller, do hereby declare that my invention consists in a method or process and certain apparatus as hereinafter described, by which I am enabled to evaporate liquids and solutions at a low temperature, and thereby to avoid the injury to which certain substances which require a nice and delicate application of heat, such as sugar, for instance, are liable to, by being exposed to too high a temperature. And I do further declare that my said invention and improvements consist in forcing, by means of bellows or any other blowing apparatus, atmospheric or any other air, either in a hot or cold state, through the liquid or solution subjected to evaporation, and this I do by means of pipes, whose extremities reach nearly (or within such distances as may be found most suitable under peculiar circumstances) to the upper or interior area of the bottom of the pan or boiler containing such liquid or solution, the

Application was made, on behalf of the defendant, for a rule to shew cause why the verdict should not be set aside.

other extremities of such pipes being connected with larger pipes which communicate with the bellows or other blowing apparatus, which forces the air into them. The pan or boiler may be of any shape or dimensions, but I prefer it with a flat level bottom, and I introduce the liquid or solution to the depth of from about four to six inches. The heat may be applied to the lower or exterior area of the bottom of such pan or boiler by naked fire, steam, or hot air, in the usual manner, and by means well understood; the air then forced into the heated liquid or solution keeps it in a constant agitation, abstracts its heat, and carries off the steam or vapour which is to be expelled. By raising the degree of heat under the pan or boiler, and increasing the quantity and velocity of the air injected into the liquid or solution, or, on the contrary, by lowering the heat and moderating the injection of air, the evaporation is accelerated or retarded at the pleasure of the operator, according to the nature of the substances or the effect desired.

"And I do further declare that in applying this my said invention and improvements to the evaporation of cane juice or syrup for making refined sugar, I can bring it to the proof or crystallizing point by keeping the temperature of such syrup or cane juice between one hundred and forty and one hundred and seventy degrees of Fahrenheit's thermometer, although I prefer to keep it between one hundred and sixty and one hundred and seventy degrees. By this simple and cheap apparatus I obtain a great quantity of large and shining crystals, which hitherto were only attainable by evaporating *in vacuo*, a very troublesome and expensive process, while other methods, by exposing the sugar to a high temperature, impair the quantity, size, and brilliancy of the crystals, and form a great quantity of molasses or treacle.

"And I further declare that this my invention and improvements can be applied to the evaporation of other liquids and solutions, as well as syrups and cane juice or sugar, by varying the apparatus and the degree of temperature according to their nature and the will of the operator.

"And I further declare that this my invention and improvements can also be applied to distilling or rectifying spirits, provided that a vent be given to the air arising with the spirit after the latter shall be condensed.

"And I further declare, that in order more quickly to remove the steam or vapour from the surface of the liquid or solution, and thereby to favour the evaporation, I sometimes, and particularly when I use hot air for heating the pan or boiler, conduct the hot air after it has given out part of the heat to the bottom of the boiler, to the surface of the liquor or solution, but I do not consider this contrivance necessary in any, nor advisable in all cases. It is hardly necessary to observe, that the evaporating power is augmented by increasing the diameter of the pipes and the quantity of air propelled by the blowing apparatus through the liquid.

"And I do further declare, that as it is desirable that the liquid to be evaporated should be of equal depth in every part of the evaporator, the bottom of which is recommended to be perfectly level; it will be found that the liquid, when sufficiently evaporated and concentrated,

At the trial, many scientific witnesses were called on behalf of the plaintiff, who described the process of the

does not readily flow out through the spout opened for the purpose; to remedy this inconvenience I placed a vertical sliding plate four and a half to five inches in height, and somewhat less in length than the breadth of the evaporator or pan, such plate being kept in its upright position by projections at right angles with its lower edge, which must slide as near as possible in contact with the bottom of the same pan. This plate is, in the first instance, put at that end of the pan or evaporator, which is opposite to where the spout is situated. When the evaporation is effected to a sufficient degree I damp the fire, or shut off the steam or hot air, and open the spout to draw off the liquid, a great part of which will immediately flow out; I then, by means of a winch, or lever, raise the pipes about six inches, and gently draw the said vertical plate by a thin wire or chain towards the spout, and thus quickly clean the bottom of the pan. It is necessary to raise the pipes in order that the before-mentioned plate may pass under them, and at the same time not interrupt the blast of air through the small pipes, which might be obstructed if any of the evaporated liquid should congeal or crystallize in them by cooling. For effecting these objects the main pipe, arising from the bellows or blowing apparatus, is inserted into the main pipe in the evaporator, in an air tight manner, but with a joint or flexible tube sufficiently long to allow the system of blowing pipes to slide upwards for about six inches. The form and construction of the apparatus which I use to produce the above effect may be varied according to circumstances, and the form and position of the pan or evaporating vessel to which it is to be applied. But two things are essential in its construction, the first of which is, that however numerous the blowing pipes may be, that their lower orifices should be distributed as evenly and equally over the whole surface of the bottom of the pan as possible, and secondly, that a stream of air should issue from the lower end of every one of them at the same time. To ensure this latter object it is immaterial whether the bottom of the pan or boiler be perfectly level, but it is quite necessary that all the lower ends of the blowing tubes should be on a level and parallel to the surface of the fluid to be evaporated, in order that there may not be a higher column of fluid in one tube than in another. The mode of construction necessary to produce these objects may be various, but in order the more distinctly to explain my meaning and my mode of operating, I hereunto subjoin a drawing of the apparatus which I have used, and find to answer the purpose, and in which A, A, A, A, fig. 5, is a plan or bird's-eye view of an oblong pan or boiler; B, B, B, the tinned copper or other large air-pipes, which are closed at their ends, C, C, C, but open into each other, and likewise into the still larger perpendicular pipe, D, from which the air is supplied by communicating, as aforesaid, to bellows or other blowing machinery; E, E, E, E, &c. are the small lateral pipes which communicate with the large air-pipes, and proceed downwards through the fluid to be evaporated, to very near the bottom of the pan. The lower ends, E, E, &c. of these pipes, are all very nearly equi-distant from each other, to produce the equal distribution of air before mentioned. Fig. 6 is a transverse section of the pan, A, A, A, A, fig. 5, showing the great air pipe, D, the cross pipe and its continuations, B, B, B, in section, and the small

patent and the manner in which it worked. The invention was considered by them to be new and useful; that the invention was for a mode of blowing in numerous streams of air to quicken the evaporation of syrup of sugar, and that the means consisted in having main pipes, above the liquor to be evaporated, from which descended numerous small pipes nearly to the bottom of the pan or vessel, so that when air was forced into the main pipes above, it came out in numerous small streams below the liquor and rose up through it, carrying off the aqueous parts thereof. The defendant had slightly varied the apparatus by using only one main pipe, the plaintiff's specification and drawing showing three main pipes; but the chief defence was that the plaintiff's invention was not new, a previous patent having been taken out in 1822 by Messrs. Knight and Kirk for a similar invention,* and

descending pipes, *e, e, e, e*, &c. as shewn in the last figure, likewise the pipes *f, f, f, f*, which likewise descend from the pipes, *a, a*, but in a more nearly vertical direction, which prevents their being seen in the view, fig. 5, but by means of which the distances of the lower ends of these blowing tubes are brought to the same distance as under the pipes, *a, a*, as in other parts of the pan. *g, g, g*, are legs to support the above described system of pipes, by standing on the bottom of the pan, and are of such length as will just prevent the lower ends of the said blowing pipes from touching it. The whole of this system of pipes is to be raised at once as before mentioned by any adequate machinery, in order to permit the scraping or cleaning plate, *h, h*, to pass under the ends of the before-mentioned small blowing pipes. Fig. 7 is a longitudinal section of fig. 5, of which a particular description will be unnecessary, as the same letters of reference denote the same parts in this and the other figures, the insertions of the small blowing pipes into the pipes, *a, a*, being shown by black dots. In all these, fig. 5 shows the situation near which the discharging valve orifice should be placed, and *x, x*, is the line near which the surface of the fluid should stand when first introduced to be evaporated. As before mentioned the form of this apparatus may be varied, provided its essential properties of the air blowing through all the descending tubes, and this being so disposed as to produce greatly divided and equally distributed currents of air over the whole bottom of the vessel at once, are maintained, because my invention consists in producing rapid evaporation at lower temperatures than usual, by the means hereinbefore described.—In witness whereof, &c.

"WILLIAM GODFREY KNELLER."

* The specification was as follows:—

"To all to whom these presents shall come, we, Richard Knight, of Foster-lane, Cheapside, London, Ironmonger, and Rupert Kirk, of Osborne-place, Whitechapel, in the County of Middlesex, Dyer, send greeting. Whereas his present most excellent Majesty, King George the Fourth, by his letters patent, under the great seal of Great Britain, bearing date at Westminster the ninth day of May, in the third year of

the defendant, at the trial, attempted to show that the plaintiff's invention and that of Knight and Kirk were the same. The plaintiff's witnesses spoke to having made extensive trials on the plan described by Knight

his said Majesty's reign, did for himself, his heirs and successors, give and grant unto us the said Richard Knight and Rupert Kirk, our executors, administrators, and assigns, his especial licence, full power, sole privilege, and authority, that we, the said Richard Knight and Rupert Kirk, our executors, administrators, and assigns, by ourselves, or by our deputy or deputies, servants, or agents, or such others as we, our executors, administrators, or assigns, at any time should agree with, and no others, from time to time, and at all times thereafter, during the term of years therein expressed, should, and lawfully might, make, use, exercise, and vend, our invention of a process for the more rapid crystallization, and for the evaporation of fluids at comparatively low temperatures, by a peculiar mechanical application of air, within that part of his Majesty's kingdom of Great Britain and Ireland called England, his dominion of Wales, and town of Berwick-upon-Tweed, and also in all his Majesty's colonies and plantations abroad. In which said letters patent there is contained a proviso, requiring us, the said Richard Knight and Rupert Kirk, by an instrument in writing under our hands and seals, or the hand and seal of one of us, particularly to describe and ascertain the nature of our said invention, and in what manner the same is to be performed, and to cause the same to be enrolled in his Majesty's high court of Chancery, within two calendar months next and immediately after the date of the said recited letters patent, as in and by the same letters patent, reference being thereunto had will more fully and at large appear.—Now know ye, that in compliance with the said proviso, we, the said Richard Knight and Rupert Kirk, do, by these presents, particularly describe and ascertain the nature of our said invention, and in what manner the same is to be performed, as follows: that is to say,—It is well known that in the common process of boiling fluids, the fire being usually applied at the bottom of the vessel containing the fluid, the strong heat which is essential to many operations, passes more rapidly through the metallic vessel than the conducting property of such fluid can carry it off; the pernicious effect of which is generally experienced in the boiling of sugar, which sugar frequently becomes burnt by the excessive heat of the vessel, to the great injury and discolouration of the sugar. In order to obviate this and similar difficulties, and also for the purpose of facilitating the process of evaporation of fluids in general, we declare this, our invention, to be peculiarly adapted. And we do hereby set forth and describe the means by which we effect the same. That is to say,—We propel a quantity of heated air into the lower part of the vessel containing the liquor, syrup, or fluid, whether in a cold or heated state, and cause such heated air to pass through the whole body of the liquor, in finely divided streams, by the means hereinafter described. The means used by us for heating and applying the air to the fluid are as follows: that is to say,—a quantity of air is propelled by means of a blowing engine, bellows, or other machine used for propelling air through a pipe, or pipes, made of lead, copper, iron, or other fit material, into the lower part of the copper pan, a vessel containing the heated syrup, liquor, fluid, or other matter to be operated on, coiled, or

and Kirk, but that the streams of air could not be caused to flow out with any degree of equality, and that the apparatus was liable to become clogged, and that from the peculiar arrangement of the plaintiff's apparatus, not only were the streams of air equal on all parts, but the apparatus was not liable to be clogged up. His Lordship left it to the jury to say whether the two inventions were alike, and whether the defendant had infringed, and the jury found for the plaintiff.

otherwise shaped, and accommodated to the nature or form of the vessel. The said coil of pipe within, and lying at the bottom of the vessel, being perforated with a number of small holes. The heated air being thus forcibly driven out in minutely divided currents, passes rapidly through the liquid, and according to the quantity and temperature of the air so passing through the liquid, a greater or less quantity of the liquid will be converted into vapour and carried off with the air. In lieu of the perforated pipe, a shallow metallic vessel, of the nature of a colander within the boiler, may be connected with the air-pipe, and the colander being perforated with small holes, the heated air may be driven through this perforated colander, or any similar contrivance that may best suit the form of the vessel, or the nature of the fluid or material to be acted upon. The air thus applied may be heated by forcing it through metallic, or other pipes, tubes, or worms, surrounding the inside or bottom of the same vessel which contains the matter to be acted on, or by an arrangement of pipes, included between an inner and outer vessel, and heated by fire, water, steam, or otherwise, or by causing the air to pass through heated iron, lead, copper, or other pipes, or tubes, or by means of flues, ovens, chambers, retorts, or other similar apparatus. We further declare, that our invention consists in the application of currents of heated air when forced, or made to pass through the body of any fluid, for the purpose of facilitating evaporation, and we also declare that the same may be advantageously applied to processes dependent upon the disengagement of aqueous vapour during the evaporation, concentration, and crystallization of various substances when dissolved in fluids, as in the manufacture of sugar, glue, salt, alum, soap, tallow, and similar processes. We claim no exclusive privilege for making, using, and vending, any of the vessels, pans, pipes, or other apparatus described herein, in their individual characters; but we do claim the exclusive privilege granted to us by the said recited letters patent, for making, using, and vending, such vessels, pans, pipes, and apparatus, when employed for carrying our invention into effect, as hereinbefore described. And we further declare that this our invention may in most cases be rendered applicable by the means hereinbefore described, to the vessels now in common use, at a moderate expense and by ordinary workmen.—In witness whereof, we, the said Richard Knight and Rupert Kirk have hereunto set our hands and seals the Sixth day of July, in the year of our Lord one thousand eight hundred and twenty-two.

"RICHARD KNIGHT,
"RUPERT KIRK."

On applying for the rule, it was stated that the invention of Knight and Kirk was the same as that of the plaintiff.

The defendant's Counsel argued that by the specification of the first patent, Knight and Kirk, declared their invention to consist in propelling a quantity of heated air into the lower part of the vessel containing the fluid, and causing such heated air to pass through the whole body of the liquor in finely divided streams, by means of the perforated coil of pipe or colander, particularly described, "or any similar contrivance that may best suit the form of the vessel or the nature of the fluid, &c." And the invention was further declared to consist "in the application of currents of heated air, when forced or made to pass through the body of any fluid for the purpose of facilitating evaporation." In like manner Kneller's specification declared the invention to consist "in forcing, by means of bellows or any other blowing apparatus, atmospheric or any other air, either in a hot or cold state, through the liquid or solution, subjected to evaporation." This, Kneller claimed as an original invention, and not as an improvement of a former invention. He then proceeds in a distinct sentence to point out, by way of illustration, one method of effecting his object, "and this I do by means of pipes," &c.; and gives a description of his apparatus, concluding by stating, that "the form of this apparatus may be varied, provided its essential properties of the air blowing through all the descending tubes, and their being so disposed as to produce greatly divided and equally distributed currents of air over the whole bottom of the vessel at once, are maintained." In both specifications, therefore, the invention claimed was that of forcing the air through the body of the fluid in finely divided streams, for the purpose of producing or facilitating evaporation. Neither of them could be considered as patents granted only for the particular apparatus described in each, for in each specification the particular apparatus described was only given by way of illustration, and the invention was not confined to that particular form of apparatus. Knight and Kirk's specification described the object as to be effected by the coil of perforated pipe, or colander, "or any other contrivance that may suit the form of the vessel or the nature of the fluid to be acted upon." And Kneller's specification also, after describing

the method of effectuating the invention, stated it to be that of forcing air, either in a hot or cold state, through the liquid subjected to evaporation, by means of an arrangement of main pipes and branch pipes, descending or dipping into the fluid. And here, too, the patentee did not confine the invention to that particular system of apparatus, but expressly states that the form of the apparatus might be varied, provided its essential properties were maintained, "because," it goes on to say, "my invention consists in producing rapid evaporation at lower temperatures than usual, by the means hereinbefore described." Kneller should have stated his invention to consist in having the mains to feed the smaller pipes to introduce streams of air for the purpose of producing evaporation. But he took out a patent for doing that which might lawfully be done by the patent granted to Knight and Kirk. He did not confine himself by the words, "and this I do by means of pipes," to the particular method pointed out; he claimed, as his invention, the principle of producing evaporation at a low temperature, by forcing, with a blowing apparatus, streams of air through the liquid. But assuming that, after the verdict, Kneller's patent must be taken to be an improvement upon the method described in Knight and Kirk's patent, Kneller ought to have taken out his patent for that improvement only. Their Lordships took time to consider their judgment; Lord Chief Justice Tenterden observing, I cannot forbear saying, that I think a great deal too much critical acumen has been applied to the construction of patents, as if the object was to defeat and not to sustain them.

On this day, Lord Chief Justice Tenterden delivered the judgment of the Court. His Lordship said:—"The objection to this patent is the production of the specification of a previous patent which in substance is an invention of a process for the more rapid crystallization of sugar, and for the evaporation of fluids at comparatively low temperatures; this object is effected by means of a coil of pipes, lying at the bottom of the vessel, perforated with small holes, and thus operating on the liquid, or by a shallow colander placed at the bottom of the vessel. It was proved, that a pipe employed and acted upon in the manner described in the specification, viz., by forcing the air at the end of it, would accomplish that object.

The patent on which the plaintiff relied, and for the

infringement of which this action was brought, was for certain improvements in evaporating sugar, which improvements were also applicable to other purposes. By his specification, Kneller declares that his invention consists in a method or process, and certain apparatus as hereinafter described. He does not claim as his invention the principle, but the apparatus, by which the principle of causing evaporation is to be carried into effect; for he states that by his apparatus, he is enabled to evaporate liquids and solutions at a low temperature. It is evident that the object of the two patents is the same. But the mode of effecting that object is different. The specification continues, "And I further declare that my said invention and improvement consists in forcing, by means of bellows, or any other blowing apparatus, atmospheric or any other air, either in a hot or cold state, through the liquid or solution subjected to evaporation." Now it was said that the words which immediately follow, "and this I do by means of pipes," constituted a separate and distinct sentence from those which immediately preceded them, and that the patentee had stated his invention in the preceding sentence, and had claimed the same invention as that described by Knight and Kirk in their specification. But we think that the words, "and this I do by means of pipes," &c., must, in conjunction with those which immediately precede them, be taken to form one entire sentence, and that they amount altogether to an allegation on the part of the patentee, that his invention consisted of the method or process of forcing, by means of bellows, or any other blowing apparatus, hot or cold air through the liquid subjected to evaporation, this being effected by means of pipes placed as directed in the specification. Now the method described in Knight and Kirk's patent appears to us to be perfectly different. It is either to have a pipe, accommodated to the form of the vessel, or a colander placed at the bottom of the vessel. The method described in the plaintiff's specification is to have a large horizontal tube (near the surface of the liquid), into which there are introduced a number of small tubes, descending through the liquid to the bottom of the vessel, and having their lower ends exactly on a level, and parallel to the surface of the fluid. The air is then forced by the blowing apparatus from the open end of the large tube to the other end which is closed, and as soon as the

large tube is filled the air descends through the smaller tubes to the bottom of the vessel, and bubbles up through the liquid, and the evaporation is thereby kept up constantly and equally in all parts. It appears to us that that is a method or apparatus perfectly distinct from the other, and for that method and apparatus the patent was taken out. We are, therefore, of opinion that there should be no rule in this case.

Rule refused.

SANDERS v. ASTON.

In the Court of King's Bench, before Lord Chief Justice Tenterden, Mr. Justice Littledale, Mr. Justice Parke, and Mr. Justice Taunton.—June 13, 1832.

Mr. Attorney-General, (Denman,) Mr. F. Pollock, and Mr. Hill, for the plaintiff; Sir J. Scarlett and Mr. Rotch for the defendant.

An action was brought by the plaintiff against the defendant for infringing a patent, granted the 13th day of October, 1825, for "Certain improvements in constructing and making buttons." *

* The specification was as follows :—

"To all to whom these presents shall come, I, Benjamin Sanders, of Bromsgrove, in the county of Worcester, button-manufacturer, send greeting.—Whereas, &c.—Now know ye, that in compliance with the said proviso, I, the said Benjamin Sanders, do hereby declare that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the drawings hereunto annexed, and the following description thereof, that is to say; my said improvements in the constructing or making of buttons consist in the substitution of a proper, soft, and flexible material or materials, in place of metal shanks, upon the backs or bottoms of buttons of certain descriptions, and which said flexible material or materials afford the means of affixing such buttons to garments of every description, with far greater convenience and neatness than where metal shanks are employed. The descriptions of buttons above-mentioned are such as I have manufactured under a patent, granted to me by his late Majesty King George the Third, dated the fourth day of November, in the fifty-fourth year of the reign of his said late Majesty, for my invention of a new and improved manner or method of manufacturing buttons, and as such method is peculiar to me, I shall proceed to furnish such a description thereof as is necessary to the proper understanding of my present improvements thereon, accompanied by explanatory drawings as aforesaid, as my experience have enabled me to afford.

The trial took place before Lord Chief Justice Tenterden and a special jury. Evidence was given of the utility

My said buttons have their faces, edges, and either a part or a whole of their backs, formed of circular pieces of cloth, or other flexible fabric capable of being acted upon by impression, with or without the assistance of heat; some of these said pieces are to be cut of a larger diameter than that of the mould in which they are to be formed, in a manner to be described hereafter, and in order that such pieces may be bended over behind, or at the back of the buttons, by the pressure of the hollow, cylindrical, and conical punch upon them, as will also be described hereafter, and I do place upon or within the said flexible pieces of such buttons, one or more pieces of paper, paste-board, cloth, or other fit material, covered or slightly impregnated with resin or resinous compounds, capable of giving cohesion or configuration, by heat and pressure, or with some glutinous or other adhesive matters or compounds capable of effecting the same purposes, and either by the combined action of heat and pressure, or by pressure alone; and I form the said pieces so covered or impregnated, either nearly of the size of the button itself, or gradually or otherwise diminishing in size, according to the flat or rounded form intended to be given to the face of the said button. I next place at the top of the said impregnated pieces a piece or pieces of metal, or other firm or unyielding material, around, through, or over which the soft and flexible material or materials, to form the substitutes for the metal shanks, are to be applied. I then place these parts, so arranged, on the top of the mould and concentric with it, and then force or drive them down to the bottom of it by means of a tool or implement, which I term a charger or conductor; as, however, it is difficult to convey an idea of the forms of the different parts by words alone, I shall proceed to refer to and to describe the various figures thereof contained in the drawing, which, as aforesaid, is affixed to this specification, and in all of which said figures the same letters of reference indicate the similar parts. I shall begin by describing the figures of the several parts already mentioned.

"Figure 1, represents the circular piece of cloth or other flexible fabric, which, as aforesaid, is to form the face, edge, and part of the back of an intended button. Figure 2, a circular piece of paper, linen, cotton, or other flexible material, rather less than figure 1, but larger than the intended button, and which I occasionally interpose between the cloth or other material forming the face of the intended button, and the impregnated papers, in order to prevent the adhesive matters they are impregnated with from penetrating through the face or edge of the button. I make this paper rather less in diameter than fig. 1, in order to allow the adhesive matter with which another circular piece of paper, &c., figure 3, is impregnated, to adhere to the outer circumference of the cloth, figure 1. Upon the piece of impregnated paper, figure 3, which is of the size of figure 1, and is to be laid upon the plain paper, &c., figure 2, one or more smaller pieces of impregnated paper, pasteboard, &c., figures 4 and 5, are also to be laid, according to the intended flat or rounded form to be given to the face of the button. And lastly, either the metal plate, figure 6, with four slits or gaps in it, formed in the manner to be hereafter described, and wound crosswise with the soft and flexible material which is intended to form the substitute for the

and novelty of the invention, but it was shewn that buttons had been made with flexible shanks or tufts, the

metal shank, is to be placed in contact with the inner piece of impregnated paper, or else one of the other substitutes for it, as will be described hereafter. The various pieces thus arranged, and placed upon each other in the order described, and as nearly concentric as may be, are then to be laid upon the top of one of the cylindrical moulds, A, A, A, shown at figure 7, being guided usually by a circular groove, a, made around the cylindrical hole for that purpose, and as shown in the plan figure 8. In this situation of the pieces, I employ the cylindrical charger or forcer, figure 9, to thrust them down to the bottom of the mould, and to cause those circular portions of figures 1, 2, and 3, which, as before said, are of greater diameter than the intended button, to rise up between the mould and the forcer, and to take the cylindrical shape shown in figure 10, the forcer being made smaller in diameter than the mould, to allow thereof. This forcer may be made of steel, iron, or other proper material, and either have a cushion formed on its top, as shown, or not, at pleasure. I next employ the steel hollow cylinder (termed a spindle in my former patent) shown in section, at c, in figure 11, which is made so as exactly to fit and fill the cylindrical mould, A, and has its mouth below opened to a conical shape, as shown at d, d; the edge around it being made as perfect or sharp as may be. This circular edge insinuates itself all round behind the outside of the raised circular portions of the pieces 1, 2, and 3, and, on pressure being employed, bends them over at the back of the intended button, in the manner shown at e, e, in figure 12. In order to confine and secure them in this position I next employ the collet or metal-toothed ring, r, shown edgewise in figure 13, and flatways in figure 14, and by a line of section in figure 15, and which when conveyed into the mould in the manner to be described hereafter, and with its circle of teeth, claws, or points, o, o, downwards, the points seize hold of and penetrate into the pieces so bent over; and, when the final pressure is given, as will be described hereafter, they materially serve in contributing to hold the whole materials forming the intended button firmly together, the teeth, claws, or points, o, o, being bent, clenched, or turned by coming into contact with the metal plate, figure 6, which, as aforesaid, bears the flexible material or materials forming the substitute for the metal shanks. This collet, r, I introduce into the cylindrical mould, A, in the following manner. After pressure has been made upon the top of the cylinder, c, as shown in figure 12, I remove that cylinder from the mould, A, and place within it a solid steel cylinder, h, shown separately at figure 16. This cylinder has formed, at its lower part, a circular channel or groove, i, i, and also a concave or hollow, j, in its centre, and between them a short cylindrical ring, k, k. The circular groove, i, i, receives the collet within it, and preserves its form or figure when compressed, whilst the concave, j, receives into it the tuft of flexible materials intended to form the substitute for the metal shank, keeps it in form, and also preserves it from receiving an undue degree of pressure. The solid cylinder, h, figure 16, is to be placed within the hollow cylinder, c, figure 11, so as to allow of a short cylindrical cavity being formed within the lower part of the cylinder, c, as shown in the right hand side of figure 7, sufficient to receive and lodge therein the toothed collet, r, (in figure 12, the collet is, indeed, shown in place,

shanks being identically the same as those shown and described in the specification, but the structure of the

but the parts are removed to a greater distance apart than is necessary, in order to show them more distinctly,) a second pressure is then to be made upon the top of the cylinder, *n*, and after being continued a proper period, as will be described hereafter, the button may be taken out of the mould completely finished. On the left side of figure 7, the several parts described are shown in the compressed state, and the button, *l*, as finished, shown in figure 17, which is an edge view of it, and in figure 18, which is a view of the back of it. The button may be conveniently removed from the mould by the help of a sharp steel hook, shown in figure 19, and which is to be inserted into the flexible substitute for the shank, to seize and drag it out. In practice I prefer to form 1, 2, 3, or more moulds in one block, *m*, and to employ several such blocks in succession, and particularly where the assistance of heat is required, in order that some of the blocks may be heated whilst the others are under pressure or filling. The circular pieces of cloth, paper, &c., may be cut of the required sizes, either by means of cutting proper punches, beds and punches, scissors, &c., and the papers or pasteboards may be coated or impregnated with the adhesive resinous material or materials by spreading it over them by means of heated cast-iron plates, spatulas, or other fit and proper instruments. The metal plate, figure 6, with four slits in it is formed in the following manner. Figure 20 represents one of these plates in the flat state, in which it is produced or cut out, by being pressed at once from rolled or sheet metal, by the action of proper beds and punches, in a fly-press, or by other proper tools and implements; these flat pieces are then to be raised or cupped in their centres, as shown edgewise in figure 21 and in fig. 22, by means of proper dies and forcers. The toothed metal collet, *r*, shown in figures 13, 14, and 15, is also formed out of rolled or sheet metal, pierced, pressed, or cut out, in the manner already described, into the flat, starlike shape shown in figure 23, the teeth, claws, or points, *u*, *o*, formed around it, are next turned up at right angles to the plane of the collet or ring, as shown in figure 13, and by a sectional line in figure 15, by forcing them through circular holes made in proper beds by the help of cylindrical punches affixed in a screw or fly-press. The relative proportions of the metal plate with slits in it, figure 6, and of the toothed ring or collet, *r*, suitable for the size of button shown, may be seen by referring to figure 24. The chief intent of raising up the centre of the plate, figure 6, is to cause the tuft of flexible material or materials, forming the substitute for the metal shank, to be elevated sufficiently above the top of the back of the toothed collet, *r*, for the needle to be passed conveniently through the said tuft, in the act of sewing the button upon the garment. Figure 25, represents the manner in which I give the first pressure upon three cylindrical rings, *c*, *c*, *c*, placed in the three moulds, *a*, *a*, *a*, (shown by dotted lines,) of the block, *m*, at once, and of avoiding to press upon the three solid cylinders, *n*, *n*, *n*, at that time. This I effect by placing upon the three cylindrical rings, *c*, *c*, *c*, the metal block or bar, *x*, having three gaps or hollows, *o*, *o*, *o*, formed across the underside of it to receive the solid cylinders, *n*, *n*, *n*, within them, and to defend them from the action of the press. Having thus given the first pressure, I then remove the block, *x*, and submit the three solid cylinders, *n*, *n*, *n*, to pressure,

bodies of the buttons was different. It was shown on the part of the plaintiff that the usual way of making

effected upon their upper ends until they are forced down level with the tops of the cylindrical rings, c, c, c, as shown on the left side of figure 7, to complete the button. I can either employ screw-presses, vices, weighted levers, wedges, or any other proper means of effecting this pressure, and of retaining the buttons under that operation for a proper length of time, or until they are become set and firm enough to be taken out of the moulds by the hook, shown at figure 19, as already described, when, if the face of the button has any gloss upon it, that may be removed by a slight damping. Having thus shown the manner of forming a button complete, I shall proceed to describe certain other methods of making the other flexible substitutes for the metal shanks mentioned in the preceding part of this my said specification. Figure 26, represents a circular metal plate having four holes made in it, near its centre; through these holes, with the help of a needle, I pass the soft and flexible material or materials intended to form my said substitute for metal shanks across and across in the manner shown in figure 27. The metal plates may either be used in the flat form, or their centres may be raised or elevated as shown by the section in figure 28. Another substitute I form in the following manner. Figure 29, is a flat metal circular plate, with a circular hole in its centre large enough to admit the tuft of material to form the substitute for the metal shank within it. This tuft I form by laying either two pieces of flat wire across each other, as shown in figure 30, or else two slips of thin metal plate laid in a similar manner across each other, as shown in figure 31, and then winding across them both ways, the flexible material for the substitute of the metal shank, as shown in both these latter figures 30 and 31. I then lay either of these crossed pieces underneath the plate 29, with the tuft of material for the shank rising through the central hole in it, and employ them in the place and manner of figure 6, as before described. I can occasionally also use the crossed pieces, figures 30, and 31, without the plate, figure 29, or I can form a solid cross out of a metal plate, to be used in place of the crossed wires or slips. Another of my said substitutes for metal shanks I form by employing a circular metal plate, figure 32, having a smaller hole in its centre than that shown in figure 29, and form the tuft of flexible material for the shank in the following manner. In figure 33, r, represents a metal bar or gauge, to determine the height of the tuft, or substitute for the shank. q, a flat wire, placed at the bottom or underneath the bar, r, and x, x, a piece of twine laid on the top of the said bar; around these three parts the flexible material to form the tuft or substitute for the shank is to be wound as shown at s; it must then be slipped off the gauge or bar, r, the two ends, x, x, of the twine, must be brought together, the wire, q, be cut to a proper length, and the tuft be brought through the hole in the plate, figure 32, by first passing the ends of the twine, x, x, through it, and then pulling the tuft, s, after it; in this state the hole will appear as shown in figure 34, which is an under view thereof, and in figure 35, as seen edgeways; the wire, q, serving to prevent the tuft from being drawn out of the button. Instead of employing wire or metal slips for these purposes, I can also use thin slips of whalebone or horn, and either crossed or singly; or even parchment, leather, or other proper

covered buttons before the plaintiff's first patent, dated the 4th day of Nov., 1813,* for "a new and improved manner or method of manufacturing buttons," was to have circular forms of bone, or other material, over each of which was

substances of sufficient strength may be employed, when crossed, for that use, and in order to prevent the flexible material or materials, forming the substitutes for the metal shanks, from being withdrawn in wear or otherwise. The slips of parchment, leather, or other yielding materials ought, however, to be of a sufficient length to bear turning over to the back of the button, in the manner already described in the reference to figure 2. I can employ for the flexible material or materials, forming my said substitutes for metal shanks, thread or twist, composed of hemp, flax, wool, silk, cotton, mohair, or any mixtures thereof capable of being wound, or wrapped around, or passed; or, in place of employing thread or twist formed of such materials, I can also use them in the crossed or woven state, and either as represented in figure 36, or manufactured in any other fit and proper manner of such material or materials. I employ circular pieces large enough to allow of bending over upon the back of the button, and in place of employing circular metal plates, with holes or gaps in them, as already described, I use solid ones similar to that shown in figure 37. I then combine the materials to form the intended button in the following manner. First, as before, I take the cloth or outside covering of the button, figure 1, and place upon it the circular piece of paper or other material, figure 2, and likewise the impregnated pieces figures 3 and 4. I next lay upon them the plain circular metal plate, figure 37, and upon that another impregnated piece, figure 5; in order, however, to cause the woven flexible substitute for the metal shank to rise up above the surface of the metal collet, *r*, I place upon the impregnated piece, figure 5, one, two, or more small circular pieces of baize or other soft and elastic material, such as shown in figure 38, and upon them I lay the woven substitute for the metal shank, figure 36, and with these various materials, arranged in the order described, I then charge the moulds, *A, A*, &c., by means of the cylindrical charger or forcer, figure 9, in the manner already described, and lastly, introduce the metal-clawed collet, *r*, and induce pressure with heat exactly in the manner above-mentioned, and the button, when finished, will appear of the form represented in figure 39, which is a view of the back of it, and edgeways at figure 40, or, instead of using a circular piece of crossed or woven threads, or twist, I can employ a circular piece of leather in a similar manner. I again repeat, that I hereby claim as my invention, and the object of this my said patent, the substitution of a proper, soft, and flexible material or materials in place of metal shanks, to all such buttons as may be formed in the various methods herein described and set forth.—In witness, &c.

"BENJAMIN SANDERS."

* The specification was as follows:—

"To all to whom these presents shall come, I, Benjamin Sanders, the elder, of Granby Place, in the Parish of Lambeth, in the County of Surrey, in Great Britain, Button Manufacturer, send greeting.—Whereas, &c.—Now know ye, that in compliance with the said proviso, I, the said Benjamin Sanders, do hereby declare that the nature of my said invention, and manner in which the same is to be performed, are par-

placed a cover of woven fabric, which was closed over the back by means of sewing by hand with a needle and

ticularly described in manner following: that is to say, as to the tools, machinery, and implements to be used of the same, do consist of, Firstly, certain pieces called cylinder dies, which are formed by making or sinking in metal, or other hard material, one or more cylindrical cavities, beds, or cells, each of the diameter of the button intended to be manufactured, and of such depths as to the said button to be pressed therein considerably, or several times lower, than the intended thickness of the said button, and the bottom or lower face of the said cavities, beds, or cells, are cut, formed, or made, so as by pressure therein, as hereafter explained, to give the face of the button itself, the figure intended thereon to be produced. And secondly, certain pieces, called charges or conductors, made of metal, or hard wood, or other material, suited to the purpose of pressing or thrusting the button, or materials thereof, into the cylinder moulds; and each of the said conductors is a kind of stick or cylinder, nearly fitted to the cylinder mould, and having a flat face with a central hole therein, to admit the shank of the button, and handle or prolongation of length, for conveniently pressing or thrusting, as aforesaid. And thirdly, certain pieces called spindles, which are made of metal or other hard material, by preference of the same kind as that of the dies, and each of the said spindles to fit accurately into one of the said cavities in the dies, and to enter therein to such a depth as shall leave a space equal to that occupied by the button when manufactured, but is formed with a protuberance or shoulder which prevents the same from entering beyond that depth, and the face of the said spindle, at the extremity thereof, which enters the said cavity, is made concave, in order that the materials of the button may be urged inwards in the first pressure; but I do also, after the parts of the button have been consolidated by such first pressure, make use, if required, of a spindle with a convex or any other description of face. And fourthly, certain pieces called counter spindles, to be useful, when needful or preferred, which are formed by preference of the same material as the spindle itself, and are well fitted, so as to slide in the said spindle, and the same are small cylinders, having a hole in the centre of each, to receive the shank of the button, and having a small motion (limited by a stop), answering to the thickness of a piece called the collet, which can be lodged in the face of the spindle, when the counter spindle is drawn back, and in this case the other end of the counter spindle stands out or projects a like quantity beyond the back face of the spindle itself. And I do further declare, that with regard to the materials and manufacture of buttons, the same, and the operations thereunto appertaining are as follows: that is to say,—Firstly, the face of the button is formed of cloth or other flexible fabric, capable of being acted upon by compression, with or without heat, or of metal, capable of being acted upon by compression, or by a blow, such as buttons might be subjected to without injury in other respects, and if the said face be of cloth or flexible fabric as aforesaid, the same is to be cut of larger diameter than that of the mould, in order that such face may be bended over by the pressure of the spindle as hereinafter described, and otherwise if the said face be made of metal, and not very thin or flexible, the sides must be previously turned up to the size of the mould, by casting,

thread, thus producing a tuft at the back, by which the button was sewn to a garment. Mr. Sanders,—in his patent, described a mode of making covered buttons by means of dies and pressure, and which was accomplished

stamping, turning, or other fit and well known operation. And I do place upon or within the flexible face of each button, one or more pieces of paper, or like material, covered, or slightly impregnated with some resinous or adhesive matter or compound, capable of giving cohesion or configuration, by heat and pressure, or of some pasty or glutinous matter or compound, capable of effecting the same purpose, by pressure alone; and I form the said pieces either, nearly of the same size as the button itself, or gradually, or otherwise diminishing in size, according to the form intended to be given to the said button. And secondly, the centre piece and shank, of which the first is a plate, or less small than the button itself, and having the shank soldered or fixed in the centre thereof, and the said piece is not indispensably necessary, but only when there is no metallic face, or the shank is not soldered or affixed to the face, and the said centre piece is placed or laid, in the process of manufacturing, upon the piece of paper or other material last mentioned. And thirdly, the collet is a small circular piece put upon the shank and compressed upon the back of the covering by a second operation with the counter spindle: but various kinds of buttons may be made without the collet. And fourthly, the tube shank, which is a tube to be slipped on the shank in preference, instead of allowing the shank alone to be opened above the collet, or otherwise it will be better to make the collet with a short tube proceeding from the centre hole thereof, and the shank to be opened above the said tube. And fifthly, the back spring to the shank, which is a spiral or helical spring, interposed between a small plate, keyed or pinned through the shank, behind the garment and the garment itself, by which means the button is always kept close, and yields pleasantly and gently in buttoning. And lastly, I do declare that the manufacturing of the said buttons is performed by laying down the covering, and then the piece of adhesive or cohesive paper or other material, and then the centre piece and shank, and that I do place and press down the said button, so in progress to be manufactured, in the cylinder die, by means of the charger or conductor, and do also dispose the collet and tube in the counter spindle. And further, that I do then put the spindle into the cylinder die, (both spindle and die being previously so heated as to act on the resinous or like matter, but not to injure the face,) and subject the whole to strong pressure continued for about one minute, or more or less, and afterwards by a second pressure on the counter spindle I force down the collet, and thereby give the button its form, which I then take out, and open the shank with a bodkin, and take off the gloss of the face by a slight damping. But in case the button be of any other kind or description, such as not to require heat, or not to need the whole of the parts and manipulations, or such as to be composed of different materials from those hereinbefore mentioned, I do vary my proceedings as may be easily deduced by any competent workman, according to my said invention, as hereinbefore specified and set forth.—In witness, &c.

“BENJAMIN SANDERS.”

by introducing the covering material, whether of woven fabric or thin sheet metal, into a hollow die, and then by pressure, aided by adhesive matter, to cause the whole of the parts to combine, the back metal plate having a bent wire shank fixed thereto. It was also shown that the present patent of 1825 * produced a great change in the manufacture of covered die and pressure-made buttons. The novelty of those made under the patent, consisting in forming the back shell or collet with a hole through in such manner that a tuft of strong woven fabric might be caused to protrude through the hole, forming thereby a shank, but the specification also described means of making other shanks, by winding thread or cord on a circular disc of metal, wood, or other matter, and then enclosing such shanks in die and pressure-made buttons. It was proved that these descriptions of shanks had been made many years before the patent, and they had been covered with thin sheet metal on the front surfaces which overlapped the backs of the buttons, simply leaving the crossed thread or string to form a shank; it was therefore stated, that covered buttons had been made before the patent with flexible tufts or shanks within the meaning of the patent, and therefore the patent was void.

His Lordship nonsuited the plaintiff, with leave to apply to have the nonsuit set aside, and a verdict entered for the plaintiff. A rule *nisi* was subsequently obtained, and the case now came on for argument.

For the defendant, it was contended that the specification of the patent of 1825 claimed more than was new; it was clear on the evidence that some of the flexible shanks claimed were old, and they had been used in metal-covered buttons before 1825, and as the first patent included metal-covered buttons, the present invention was, by the new specification, claimed as applicable to all covered buttons, whether of woven fabric, or where the fronts of the buttons were covered with metal, which were made according to the first patent, and therefore the patent was bad. The mode of making a flexible shank by a tuft of woven fabric protruding through a hole in the back shell or collet might be new, if so, the plaintiff ought to have confined his claim of invention to that; and it was further contended that the combination of two old parts was not a new invention within the statute.

* See p. 510, *ante*.

For the plaintiff, it was contended that this was a new combination of parts by machinery, and although some of the means of obtaining flexible shanks to buttons were old, still they were under this invention brought together under new circumstances, particularly by the toothed collet. The combination was different from the buttons made under the first patent, and also different from the metal-covered buttons produced at the trial.

Lord Chief Justice Tenterden.—I am of opinion the nonsuit in this case was right, and therefore the rule for setting it aside must be discharged. The action is brought for the infringement of a patent, and very early in the specification the plaintiff states his ground for the patent, which is for "improvements in the constructing or making of buttons," and "consists in the substitution of a proper, soft, and flexible material or materials in place of metal shanks upon the backs or bottoms of buttons of certain descriptions." Now before this patent was taken out, the same person had obtained a patent for a very ingenious, and, as it turned out, a very useful invention of making buttons with metal shanks. For that invention his original patent was obtained; long before the date of even that patent, buttons had been made with flexible shanks, and the patentee has now gone on in this specification to describe the mode in which the substitution of flexible materials in the place of metal shanks is to have effect. A very great part of the specification consists in the description of the mode by which the buttons with the metal shanks were made; a very considerable part consists of that. Another part of it consists in describing the modes by which the flexible shank must be applied to the kernel, which I think is the word there used. Now all that part which refers to the former patent, refers to something not new; all, or almost all, perhaps quite all, of that part of the specification which relates to the mode of putting on the flexible shank is not new. He does it by various methods; one is by having four holes, another by a cross, another by a single hole, and it appears by the evidence given on the part of the defendant, that buttons with flexible shanks have many years ago been made in each of those ways. What then is the novelty? At one time it is contended, and it was contended by Mr. Hill, as I thought, very ingeniously at the close of the argument, that the novelty

was the mode of using—the mode in which the flexible shank was united to the other. That mode is certainly by a collet, and it is by a collet with teeth. Now that a collet, speaking of it absolutely, is not new, is perfectly correct,—it had existed in the original patent. But it is said in the original patent, the collet could be of no use, that is, that it would be less in common use, except by opening the metal shank which kept it in its place. I can find nothing of that kind in the specification of the first patent. I find the collet mentioned, and it says that “by a second pressure on the counter spindle I force down the collet, and thereby give the button its form, which I then take out, and open the shank with a bodkin, and take off the gloss of the face by a slight damping.” There is not one word of the finishing the button by means of that collet; it is not stated that it has been the means. I apprehend the strong pressure that is used on the collet in that state in which it had no teeth, contributed mainly to the keeping it in its place. Now, what is said as to the collet in the second specification? Is any reliance placed on that in the part of the specification, which is as to the making of it? He says, he employs the collet which has to be conveyed into the mould in the manner described, which is precisely the manner in which the old collet is conveyed into the mould; then he says “with its circle of teeth, claws, or points, &c, &c, downwards.” Then he says, “the points seize hold of and penetrate into the pieces so bent over, and when the final pressure is given as will be described hereafter, they materially serve in contributing to hold the whole materials forming the intended button firmly together.” They contribute to hold the whole firmly together. I can’t anywhere discover that the patentee says that that toothed collet is the essential part of his invention, or any very material or important part. Then we come to the end of his specification. What is it? Does he mention the mode of fastening down the flexible shank by means of this collet? Not a word of it. “I again repeat that I hereby claim as my invention, and the object of this my said patent, the substitution of a proper, soft, and flexible material or materials, in place of metal shanks to all such buttons as may be formed in the various methods herein described and set forth.” If the patentee had meant to say, that he claims as his invention, and the object of his patent, was

the substitution of a flexible material in place of the metal shank, by the particular and special means of that toothed collet, it appears to me he ought to have done so. But, however, if we are to put the largest possible construction, and give every advantage to the plaintiff that can be derived from any invention, though his specification is not the most accurate and precise, and if we are to say that the toothed collet is the important and essential part of his invention, you have the fact that if that was the only mode of doing it he should have taken a patent for doing it, but it turns out it is not the only mode, though it answers the same end, but it is not that mode. Taking the whole together, and the language of the specification in which he is to point out what the object of the patent is, I own it appears to me the plaintiff is not entitled to recover.

The really essential part of this invention ought to be so claimed in distinct terms in the specification which then is insufficient

Mr. Justice Littledale.—I am entirely of the same opinion. It appears to me the upper part of the button is not to be considered as a new invention, neither is the flexible shank, that is not in itself a new invention, for they were in use before. Then it comes to this, that neither of them are new inventions, nor is the manner of putting some of them together new. It seems to me that putting the two together and making it an entire button unless by some particular means better than any other mode of doing it, does not constitute such a new invention as to be the subject of a patent. It has been said that this is done by means of the collet, and that the collet is a new invention, but with regard to that, that is not claimed in the specification. It is merely asserted, and on the part of the plaintiff it is now stated, that the toothed collet was not the object of his invention, but it was only the mode of carrying it into effect, and at the conclusion of the specification the only claim is in respect of a flexible shank, and the whole is to be considered as an entire mode of making a button. What is the effect of this toothed collet? Why it is a very ingenious contrivance, but at the same time the defendant has adopted another mode, which seems to answer the same purpose. It seems to me, therefore, on these grounds, the patent cannot be supported, and that the nonsuit was right.

Putting two old things together, accepted by man means, is not the a subject-matter for a patent

Mr. Justice James Parke.—I am also of opinion in this case the rule ought to be discharged. I was not in Court at the time this motion was made by the Attorney-General,

but I have had an opportunity of looking at the things, and at the specification, and of consulting with the rest of the judges on this occasion, and I certainly am inclined to think that, though not in form, yet in substance, the claim was for a new method of fastening together the pieces of an old button, by means of clenching the teeth of the collet, which certainly was an ingenious invention. And though at first I thought, in terms, the specification did not claim that, yet looking at it altogether, I thought it did claim it in substance; but then I was not aware what mode the defendant had used to accomplish the same object; but looking at the specification more carefully, I very much doubt if that impression was correct. I incline to think not. If you look to the language of it, it does not refer to the collet as an essential part of the invention. It begins by saying, "My said improvements in the constructing or making of buttons consist in the substitution of a proper, soft, and flexible material, or materials, in place of metal shanks upon the backs or bottoms of buttons of certain descriptions, and which said flexible material or materials afford the means of affixing such buttons to garments of every description, with far greater convenience and neatness than where metal shanks are employed." Then he proceeds to describe his old patent and improvements in it, and he concludes by saying, "that is my invention." "I again repeat that I hereby claim as my invention and the object of this my said patent, the substitution of a proper, soft, and flexible material or materials, in place of metal shanks to all such buttons as may be formed in the various methods herein described and set forth." I certainly thought at first that that might be read as if it were, perhaps, a soft and flexible material employed in the method here described, which would have been by means of the toothed collet. If that were so, then I think the patent would have been good. I certainly am led in the whole now to concur in the view taken of this specification in point of law by my brother Littledale, and I think it does not claim that as part of the invention. Indeed Mr. Hill in his argument admits that that is not the claim the patentee insists upon, and that he claims only the method of fixing a shank to the button constituted under his old method. If that is his claim, it is too large, and he has no right to claim it. If the putting a flexible shank to the button had become

public property, he could claim no right to fix it, but only to fix it in a particular way described in that patent. And supposing this is to be considered as giving him a claim for a method of attaching a flexible shank to the old button and uniting all together to hold the collet, then there has been no infringement of that method, for the method of operating appears to be different. The mode by which the plaintiff succeeds in doing that is by clenching the toothed collet and fixing the teeth of it to the cloth which has been spread over the original form of the button, and fastening all together. The mode in which the defendant fixed together the collet, which I should observe was an old thing and public property, is very different. There the front shell of the button is made in a sort of cylinder, the collet itself is a cylinder, and the mode in which he makes them hold together is by pressing the cloth between the two rims of the cylinder, and then bending the edge of the front cylinder over the edge of the collet. It appears to me to be a different thing. Though the plaintiff may be entitled to specify, and his patent may entitle him to fix this by a toothed collet, yet on the ground that I have mentioned the nonsuit ought to be sustained.

Mr. Justice Taunton.—The patentee declares in his specification that his “improvements in the constructing or making of buttons consist in the substitution of a proper, soft, and flexible material or materials in place of metal shanks upon the backs or bottoms of buttons of certain descriptions,” that is the object therefore of the patent—the substitution of a flexible material in place of metal shanks. Now the using of a collet with teeth or claws upon it is one of the methods by which that substitution is to be carried into effect, that appears to be the only thing that has any novelty in it. The defendant has not adopted that, he has made use of another mode of fixing the collet. He does not use the collet with claws or teeth, but he makes use of some other mode of compressing the materials and confining them by means of a collet. It does not appear to me the defendant has been guilty of an invasion of the patent of the plaintiff, and therefore I think the rule ought to be discharged.

Rule discharged.*

* No further proceedings were taken by the plaintiff in supporting

JONES v. PEARCE.

In the Court of King's Bench, before Mr. Justice Patteson and a Special Jury.—June 27, 1832.

THIS was an action to recover damages for the infringement of a patent granted to the plaintiff, on the 11th day of

the patent, and it was generally considered void by the trade, and many persons proceeded, on the faith of the judgment, to manufacture buttons according to the patent, though for the most part, persons preferred to make them by what is now known as Mr. Aston's mode of making. After the passing of the Act 5 and 6, William the 4th, c. 83, to amend the law touching letters patent for inventions, application was made by Mr. Sanders to the Solicitor-General, (Rolfe,) for leave to enter with the Clerk of the Patents of England, a disclaimer and alteration of the specification according to the 1st section of that statute. The patentee proposed to disclaim all parts of the specification excepting that mode of making covered buttons which consisted in having a collet with a hole in the centre large enough for allowing a tuft of strong woven fabric to be protruded through, to form a flexible shank, and there cannot be a doubt that had the specification originally been drawn to secure that invention, that the patent might have been sustained, and then, although the defendant did not use a toothed collet, he would probably have been held to have infringed the patent, because his collet had a hole through it, and a tuft of woven fabric protruded through, to form the required flexible shank, and the shank-fabric in both cases was securely held by the collet. And what is more important for patentees to consider, when drawing their specifications, is, that all those modes of making flexible shanks, described by the patentee in his specification at figs. 6, 20, 21, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35, had turned out to be useless, and it was these the patentee sought by his disclaimer under the statute to get rid of, and these were all shown to be old as shanks for buttons, and also several of them had been commonly used in making metal-covered buttons.

On the hearing before Mr. Solicitor-General, it was objected by the trade that the patent having been considered as invalid for upwards of three years, after the verdict in *Sanders v. Aston*, and as the trade during that time, on the faith of that verdict, had gone largely into the manufacture of such descriptions of buttons, no disclaimer ought to be allowed, and it was urged that the statute never could have been intended to revive patents under such circumstances. For the patentee, it was argued that the patent was in force, the circumstance of a verdict being against the patentee and the distance of time could make no difference. The trade might have repealed the patent; it had not done so, and therefore this patent was similarly placed to all other patents which might have defective claims to invention. Mr. Solicitor-General refused to grant leave under his fiat on the grounds that the whole trade had acted on the judgment of the Court of King's Bench, and that it would be a great hardship, particularly on those who had gone into that branch of the trade after the judgment of the Court in 1832.—

W. C.

Oct., 1826, for "An Improved method of making Carriage wheels;"* the declaration was in the usual form, and the defendant pleaded not guilty.

* The specification was as follows:—

To all to whom these presents shall come, I, Theodore Jones, of Coleman Street, in the City of London, Accountant, send greeting.—Whereas his Most Excellent Majesty King George the Fourth, by his letters patent, under the Great Seal of Great Britain, bearing date at Westminster the eleventh day of October, in the seventh year of his reign, did, for himself, his heirs, and successors, give and grant unto me, the said Theodore Jones, my executors, administrators, and assigns, his especial licence, full power, sole privilege, and authority, that I, the said Theodore Jones, my executors, administrators, and assigns, and every of them, by myself and themselves, my and their deputy and deputies, servants or agents, or such others as I, the said Theodore Jones, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter, during the term of years therein expressed, should and lawfully might make, use, exercise, and vend within that part of his said Majesty's United Kingdom of Great Britain and Ireland, called England, his dominion of Wales, and town of Berwick-upon-Tweed, and also in all his Majesty's colonies and plantations abroad, in such manner as to me, the said Theodore Jones, my executors, administrators, and assigns, or any of them, should in my or their discretion seem meet, my said invention of an improvement or improvements on wheels for carriages, in which said letters patent there is contained a proviso obliging me, the said Theodore Jones, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said invention, and in what manner the same is to be performed, and to cause the same to be enrolled in his Majesty's High Court of Chancery, within six calendar months next and immediately after the date of the said recited letters patent, as in and by the same, reference being thereunto had, will more fully and at large appear.—Now know ye, that in compliance with the said proviso, I, the said Theodore Jones, do hereby declare the nature of my said invention to consist in an improved construction of carriage wheels, of such nature that the weight which they have to carry is suspended from that part of the wheel which happens to be uppermost, instead of being supported, as is usual, by the spokes which happen to be under the axletree. And in further compliance with the said proviso, I, the said Theodore Jones, do hereby describe the manner in which my said invention is to be performed by the following description thereof, reference being had to the drawing annexed, and to the figures and letters marked thereon (that is to say):—In the Drawing, Fig. 1, represents a side elevation of one of my improved wheels, with a single row of suspending rods, for such I call those parts which answer to the spokes of an ordinary wheel. A, A, is a strong circle or hoop of wrought iron, or other suitable material, which as it answers to the felloes and tire of a common wheel, I denominate the rim, and it should here be observed, that this rim may be either a plain hoop, or may be made with a rib on the inside as here shewn, to give it additional strength; there are fourteen conical holes made through the rim, at

*Sir James Scarlett and Mr. Godson for the plaintiff.
Mr. Campbell, Mr. F. Pollock, and Mr. Rotch for the
defendant.*

equal distances, represented by dotted lines, one of which is marked *a*. *a*, is the box; *f, f*, the nave, having the cap or shield taken off, the better to shew its construction; the nave contains fourteen feathers or divisions, one of which is marked *f*, these feathers divide it into fourteen cells or compartments, the box and nave so formed is made in one piece of cast iron or other suitable metal. *b*, represents a suspending rod made of wrought iron or other suitable metal, with a conical head which exactly fits the hole made for it in the rim, the other end is formed into a screw; this I pass through the hole in the rim at *a*, and then through a corresponding hole formed for it in the nave, till the screw end of the rod enters the cell appropriated for it, and then I screw on the nut, *d*, and that suspending rod is in its place. I then arrange the other thirteen suspending rods in the same way.

Fig. 2, represents an outside view of the plate, which I call a shield, before mentioned, which is made of cast-iron, or other suitable metal, and which is to be fastened by screws to the front of the nave to keep the nuts from turning after they are screwed to their places.

Fig. 3, is a vertical section of the same shield, and

Fig. 4, a view of the inside of the shield; the parts, *h, h*, come into contact with, and take a bearing against, one of the flat sides of each nut, whereby it effectually secures the whole of them from unscrewing. It must be observed that the holes in the nave are large enough to admit the suspending rods to pass freely through them, and the nuts into which the suspending rods are screwed, have space or room allowed for them to slip back in their cells, and the suspending rods have no shoulders against the outside of the nave, nor do their screws pass so far through the nuts in their cells as to touch the box to prevent them from slipping back. It being peculiar to my improved wheels, that the rods (which happen to be under the axletree), are at liberty so to retire in their cells, that they are never subject to pressure, and the effect of this arrangement is, that the whole weight put upon the axletree, in the box, *a*, is suspended by means of the upper rods from that part of the wheel which happens to be uppermost.

Fig. 5, represents a section of fig. 1, taken through the dotted line, *A, A*; in this figure, *A, A*, is the rim. *b*, represents a small feather formed upon the conical head of the rod, which fits into a corresponding slit in the side of the conical hole made in the rim, to prevent the rod turning round when the nut, *d*, is screwed on the other end of the rod. *f*, is the nave, *a*, the box.

Fig. 6, is a perspective view of one of my improved wheels, with a double row of suspending rods adapted for carriages where great strength is required.

Fig. 7, *a, a*, is the box which is cast in one piece, with two naves or sets of cells, *f, f*, and *f, f*, encircling it.

Fig. 8, is a side elevation of the wheel with the shield taken off the front nave. *A, A*, is the rim, having conical holes made wherever a rod is to be placed. *d, d*, represents eight nuts, which are screwed upon the ends of the suspending rods marked, *b*; the other alternate eight suspending rods marked, *c*, are secured by the nuts in the back nave.

Several witnesses were called for the plaintiff, who described the plaintiff's invention, and spoke of the novelty

f, f, represents eight feathers which divide the front nave into eight cells, the back nave is divided in a similar way. It will be seen in the perspective view (fig. 7), that the holes formed for the suspending rods, in the front nave, are not made opposite the holes in the other nave, but are placed alternately, thus *n*, is between *l*, and *m*.

Fig. 9, is a section of fig. 8, taken through the dotted line, *a, a*; in this figure will be seen at *a*, the conical head of the rod with the small feather, which fits into a corresponding slit in the rim to prevent the rod turning round, as before described. It must also be observed, that the top of the cell, *f, f*, is at right angles with the rod, *a*, to afford a fair bearing to screw the nut, *v*, against; this remark applies to each of the other cells. The position of the rods, *a, c, a, c*, as they stand connected alternately with the front or back nave, will be better seen in fig. 6.

Fig. 10, represents a view of the outside of the shield, to be fastened to the front nave as before described.

Fig. 11, is a view of the inside of the same shield; a similar shield is also required to enclose the back set of nuts, and to prevent their unscrewing, and is fastened to the nave in a similar way.

The mode which I most approve for making the box and naves for my improved wheels, as last described, is by a union of cast and wrought iron, as follows, that is to say,

Fig. 12, *a, a*, represents an end view of the box, upon which is cast the broad flange, *b*, and also the eight radial feathers, *c, c*, which are placed at equal distances round the box, and divide the space into cells to contain the nuts as in fig. 8.

Fig. 13, represents a similar view of the box, *a, a*, and feathers, *c, c*, and flange, *b*; *d, d, d, d*, represent a wrought iron ring, the internal part of which is formed upon a mandrill into a polygon of eight large sides, as shewn at *d, d, d, d*, and *e, e, e, e*, and eight smaller sides, formed alternately between the larger ones; these smaller sides are made to fit the ends of the radial feathers, and as the radial feathers are made to bevel inwards, as will be seen in the side view, fig. 14, at *c, c*, it will be necessary to divide the polygonal ring into two parts, as shewn at figs. 15 and 16, when these two halves, *d, d, e, e*, are placed upon the flange, *b*, so as to encircle the feathers as shewn at fig. 13, the wrought iron ring, *g, g*, fig. 17, (being previously made to fit the polygonal ring, the external part of which is cylindrical,) is made red hot, and being slipped over the two halves of the polygonal ring it contracts in cooling, and consequently binds all together very firmly, forming the cells of precisely the same shape as those in the cast iron naves, figs. 7, 8, and 9. The dotted lines, *g, g*, fig. 13, represent the position of the external ring, when the whole is together, the holes for the suspending rods are then drilled through both rings, as shewn in dotted lines, fig. 17. Fig. 14, shews a side view of the box, *a, a*. *d*, and *g*, represent the two wrought iron rings (in section) when fixed together, and hereby their combination with the feathers will be better understood.

Fig. 18, represents an internal view of one half of the polygonal ring corresponding to that shewn in its place (in section). In fig. 14, *f*, shews a section of the shield which is similar to those already described. *m*, represents the external appearance of the back nave complete.

and utility of the wheels. Upon cross-examination of the witnesses, a model of a wheel (afterwards proved to be made according to wheels used by Mr. Strutt, of Derby, in a cart for carrying stone, for upwards of a year, in 1814 and 1815), and all stated that it was made on the same principle as the patent, but wanting in important details which would cause it to be quickly out of order.

On the part of the defendant it was contended that there was no infringement, the naves of the wheels made by the defendants were of wood, and not as in the plaintiff's invention of iron, and further that the patent claimed the making of a description of wheels which had been in public use between Belper and Derby for more than a year. It was proved by a wheel-wright who worked for Mr. Strutt, of Derby, and also by other witnesses, that he remembered assisting to make for Mr. Henry Strutt, in 1814, a pair of wheels similar to the model produced. They were attached to a cart, and used by Messrs. Strutt in fetching stones from two quarries, each about one mile from Belper, partly on the turnpike road, and partly on a private road. The cart was ordered to be put to very rough work; it carried heavy weights, upwards of thirty hundred weight. It was used almost daily for more than a year. Many a time it was used without breaking. Sometimes the spokes got bent, and it at length met with a misfortune in the stone quarry, by the breaking of the box or nave, and it was then laid by. Mr. Strutt also had the wheels of a milk-cart on the suspension principle. The spokes were braced together like the strings of a drum. Mr. Henry Strutt died in 1821, having been ill some years previously.

Now, whereas the wheels in general use for carriages are made or constructed with spokes in such manner that the spoke or spokes that happen to be under the axletree, contribute to the support of the weight or load.

But whereas I hereby claim as my invention, and declare that my improvement or improvements on wheels for carriages consist in substituting suspending rods made of iron or other suitable metal in lieu of spokes, by which suspending rods I hang or suspend the weight or load from that part of the wheel which happens to be uppermost, and prevent any support being given to the said weight or load by the rods which happen to be immediately under the axletree.—In witness whereof, I, the said Theodore Jones, have hereunto set my hand and seal this 10th day of April, in the year of our Lord one thousand eight hundred and twenty-seven.

THEODORE JONES.

Mr. Justice Patteson then summed up the evidence, in the course of which he observed :—Sir James Scarlett complained that the defendant did not call Taylor as a witness. The best answer to that is, that the plaintiff could himself have subpoenaed him if he thought his testimony useful. If the plaintiff claims the mere principle of suspension, his patent could not be supported, for it had been evidently known long before his patent; but I am of opinion that the claim is for the invention of a method of making wheels on that principle, which method is described in the specification taken as a whole. The specification has two particular passages. First, “I, the said Theodore Jones, do hereby declare the nature of my said invention to consist in an improved construction of carriage-wheels, of such nature that the weight which they have to carry is suspended from that part of the wheel which happens to be uppermost, instead of being supported, as is usual, by the spokes which happen to be under the axle-tree. And in further compliance with the said proviso, I, the said Theodore Jones, do hereby describe the manner in which my said invention is to be performed, by the following description thereof, reference being had to the drawing annexed, and to the figures and letters marked thereon, &c.” And then, after describing the mechanical parts at length, he winds up by saying, “Now whereas the wheels in general use for carriages, are made or constructed with spokes in such manner that the spoke or spokes that happen to be under the axle-tree, contribute to the support of the weight or load: But whereas I hereby claim as my invention, and declare that my improvement or improvements on wheels for carriages consist in substituting suspended rods made of iron or other suitable metal, in lieu of spokes, by which suspending rods I hang or suspend the weight or load from that part of the wheel which happens to be uppermost, and prevent any support being given to the said weight or load by the rods which happen to be immediately under the axle-tree.” Therefore if the use of the rods was known before then the invention was not new;—it was not necessary to show that it was actually in use at the moment of taking out the patent. The circumstance of ceasing to use it would not make it new. The question is, was there really an invention by Mr. Strutt in use, known to others. If you should think his was an abortive attempt, and a failure, or a

mere experiment which did not answer, then it would not invalidate the plaintiff's patent. It appears to me that if the model produced by the defendant fairly represented the wheel used by Mr. Strutt, one now made like it would be an infringement of the plaintiff's patent. Therefore Mr. Strutt himself would be liable if this defendant is liable. But it is for you to say, if on the whole of this evidence, either on the one side or the other, it appeared this wheel constructed by Mr. Strutt's order in 1814, was a wheel on the same principles, and in substance the same wheel as the other for which the plaintiff has taken out his patent, and that was used openly in public, so that everybody might see it, and had continued to use the same thing up to the time of taking out the patent, undoubtedly then that would be a ground to say that the plaintiff's invention is not new, and if it is not new, of course his patent is bad, and he cannot recover in this action; but if, on the other hand, you are of opinion that Mr. Strutt's was an experiment, and that he found it did not answer, and ceased to use it altogether, and abandoned it as useless, and nobody else followed it up, and that the plaintiff's invention, which came afterwards, was his own invention, and remedied the defects, if I may so say, although he knew nothing of Mr. Strutt's wheel he remedied the defects of Mr. Strutt's wheel, then there is no reason for saying the plaintiff's patent is not good; it depends entirely upon what is your opinion upon the evidence with respect to that, because, supposing you are of opinion that it is a new invention of the plaintiff's, the patent is then good; then the only remaining question would be, whether the defendant has or not infringed the patent.

Now as I have told you before, it seems the defendant has constructed a wheel whose construction is on the suspension principle; that alone would not make it an infringement of the plaintiff's patent, because the suspension principle might be applied in various ways; but if you think it is applied in the same way as according to the plaintiff's patent it is applied, then the want of two or three circumstances in the defendant's wheel, which are contained in the plaintiff's specification, would not prevent the plaintiff's recovering in this action for an infringement of his patent. It would be quite a different thing if it was shown that the defendant had his communication

A patent is infringed by the use of the material parts of the invention although some things described in the specification may be omitted.

long before with Mr. Strutt, and had taken up Mr. Strutt's invention in Derbyshire, and had constructed something like Mr. Strutt's without any knowledge of the plaintiff's patent, and had actually borrowed it from Mr. Strutt's, which was good for nothing; it would be the hardest possible thing to say that this was an infringement of the plaintiff's patent; but it merely comes to this by reason of the variance between the defendant's and the plaintiff's, it is only less useful and less durable, but is in effect the same thing. Then the two points for your consideration clearly are these: whether the plaintiff's invention is new, and, if new, whether the defendant has so constructed his wheel that it is an imitation of the plaintiff's patent; if you are of opinion for the plaintiff on both these points, your verdict will be for the plaintiff; but if you are of opinion on either of those points against the plaintiff, then your verdict will be for the defendant; but you will be so good as to tell me upon what ground it is—whether it is upon the ground that the plaintiff's invention is not new, or upon the ground that the defendant's is not an infringement, because it may make a material difference hereafter.

Infringement does not constitute substantial difference as to arrive at the degree of infringement.

In reply to a question from the Jury, whether there was any evidence of the defendant having used or sold the wheels—

His Lordship said, the terms of the patent are, “without leave or license, make,” &c.; now if he did actually make these wheels, his making them would be a sufficient infringement of the patent.

The Jury found for the plaintiff.*

RUSSELL v. COWLEY, DIXON, AND OTHERS.

*In the Court of Chancery, before the Lord Chancellor (Brougham).—
June 20, 1833.*

THIS was an application for an injunction to restrain the defendants from manufacturing gas and other tubing according to an invention for which a patent

* In the following Term a rule *nisi* was obtained for a new trial, but the rule was never argued, the parties having compromised all matters of difference between them.—W. C.

was granted to C. Whitehouse and assigned to the plaintiff. An understanding was come to between the counsel without going into the case, and an order was agreed to between the parties to the effect—that an issue should be tried at common law, that the defendant should keep an account, and that the plaintiff should, by certain engineers, have the power of seeing the working of the defendants' machinery, in order to give evidence in the suit.

RUSSELL v. COWLEY, DIXON, AND OTHERS.

*In the Court of Chancery, before the Lord Chancellor (Brougham).—
July 27, 1833.*

A FURTHER application was made to the Lord Chancellor in this case, owing to a dispute as to the extent of his Lordship's order. The plaintiff considering it essentially necessary to his case that the engineers appointed to examine the working of the defendants' machinery should be accompanied by competent workmen, the defendants refused to admit more than the engineers named.

Sir E. Sugden, on behalf of the plaintiff, applied to his Lordship to have the order so worded that proper practical assistance should accompany the examiners.

His Lordship observed that the examiners ought to have every facility, and considered that the order should include such assistance as might be required.

Mr. Attorney-General (Horne), for the defendant, said that he should not oppose the application, and it was agreed that the examining engineers should be accompanied by two assistants.

RUSSELL v. COWLEY, DIXON, AND OTHERS.

*In the Court of Exchequer, before Lord Chief Baron Lyndhurst and a
Special Jury.—February 14, 1834.*

Sir J. Scarlett, *Mr. Rotch*, and *Mr. Follett*, for the plaintiff; *Mr. Solicitor-General (Campbell)*, *Mr. Platt*, and *Mr. Richards* for the defendants.

This was an action brought to try the validity of a patent granted to Cornelius Whitehouse, on the 26th day of February, 1825, for Certain improvements in manufacturing tubes for gas and other purposes,* and to ascertain whether

* The specification was as follows:—

"To all to whom these presents shall come, &c., Now know ye, &c.—I, the said Cornelius Whitehouse, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the drawing hereunto annexed, and the following description thereof, that is to say:—

"My improvements in manufacturing tubes for gas and other purposes, consist in heating the iron of which such tubes are to be made, in a blast furnace; and immediately after withdrawing them from the furnace, passing them through swages, or other such like instruments, in manner following: I prepare a piece of flat iron, commonly called plough plate-iron, of a suitable substance and width, according to the intended calibre of the tube. This piece of flat iron plate is prepared for welding by being bent up on the sides, or as it is commonly called, turned over, the edges meeting, or nearly so, and the piece assuming the form of a long cylindrical tube. This tube is then put into a hollow fire, heated by a blast; and when the iron is upon the point of fusion, it is to be drawn out of the furnace by means of a chain attached to a draw-bench, and passed through a pair of dies of the size required; by which means the edges of the iron will become welded together.

"Description of the Drawing.

"The apparatus which I employ for this purpose is shown in the drawing at fig. 1, which is a side view of the furnace, *a*, and of the draw-bench, *b*, with its spur-wheel, *c*, which may be put in operation by a hand-winch, or by attaching its axle to the moving part of a steam-engine. *d*, is a screw-press, in which the dies are placed for swaging and uniting the edges of the iron tube, *e*, as it passes through. A front view of this screw-press, with its dies, is shown at fig. 2; and one of the dies removed from the press is shown at fig. 3. The iron tube, *e*, having been heated to the point of fusion in the blast furnace, *a*, is drawn out by the chain of the draw-bench; and the screw of the press, *d*, being turned so as to bring the dies to their proper point of bearing, the two edges of the iron become pressed together, and a perfect welding of the tube is effected. The screw-clamp or other fastening, *f*, by which the end of the tube is held and attached to the chain, is now opened, and the tube removed; the reverse end of the tube is then grasped by it, and that part which has not been welded is introduced into the furnace, and after being heated, is drawn through the dies, and welded in the manner above described.

"The process of welding these tubes may be performed without the screw-press and dies above described. A pair of pincers, as shown at fig. 4, may be employed instead, having a hole for the tube to pass through, similar to the dies; one arm and chap of these pincers is shown at fig. 5, for the purpose of exhibiting the conical figure of the hole which the tube is to pass through. As the tube, *e*, is drawing out of the furnace by the chain of the draw-bench, a workman brings the pincers and takes hold of the tube, resting the pincers against the

it had been infringed by the defendants. The declaration was in the usual form, and the defendants pleaded the general issue. This case came from the Court of Chancery, where an order had been made for an inspection of the works of the defendants by engineers named by the plaintiff, and to inspect the plaintiff's works by engineers named by the defendants.

Mr. Follett opened the pleadings, and

Sir James Scarlett stated the case for the plaintiff. He said, this was an action against the defendants for an infringement of a patent obtained by a person of the name of Whitehouse, and assigned to *Mr. Russell*, the plaintiff. The question divided itself into two parts—whether the patent was for an original and useful invention, and if so, whether the defendants had infringed it. The mode of welding, before the present patent, was, by inserting within a hollow tube, what was called a “mandrel,” that is, a metal rod introduced into the tube to keep it in a circular form, and resist the force of the dies. The inventor of the mode in dispute, was a person of the name of Whitehouse, who had been working for a length of time at *Mr. Russell's* factory, at Wednesbury: he tried the experiment of drawing turned up plate-iron, when at a welding heat, through dies having conical holes,

standard, &c, as a steadying place, and as the tube passes through the hole of the pincers, the welding of the edges of the iron is effected.

“I have thus described the modes which I have employed, and found fully to answer the purpose in welding tubes of iron; but I do not confine myself to the employment of this precise construction of apparatus, as several variations may be made without deviating from the principles of my invention, which is to heat the previously proposed tubes of iron to a welding heat, that is, nearly to the point of fusion, and then, after withdrawing them from the fire, to pass them between dies, or through holes, by which the edges of the heated iron may be pressed together, and the joint firmly welded. The advantages of this tube, compared with those made in the ordinary way, are these—the iron is considerably improved by the operation of the hollow fire, the heat being generally diffused, the length of the pieces of tube thus made is likewise a great advantage, as by these means they may be made from two to eight feet long in one piece, whereas by the old modes the lengths of tubes cannot exceed four feet, without considerable difficulty, and, consequently, an increased expense. These tubes are likewise capable of resisting greater pressure, from the uniformity of the heat throughout at which they have been welded. And, lastly, both their internal and external surfaces are rendered smooth, and greatly resembling drawn lead pipes.—In witness whereof, &c.

CORNELIUS WHITEHOUSE.

so as to admit a tube on one side rather larger than the opposite side; and by drawing it compressed the edges, and gave the required formation to the tube. The experiment was successful; the tube was completely welded without the necessity of the mandrel. When this invention came into the market, it reduced the price of tubes one-third. The patent was for the mode of manufacture, and not for the apparatus itself.

The Learned Counsel then described minutely from a model and various instruments and tools, the mode pursued by the plaintiff, of drawing the tubes through dies at a welding heat. He then said that a person of the name of Royl was in the plaintiff's employ, and afterwards went into that of defendants: he was the person said to be the inventor of defendants' method. That plaintiff having obtained evidence that defendants' method of manufacture was an infringement of his patent, he filed a bill in the Court of Chancery, and an order was obtained for the inspection of defendants' process. Two scientific gentlemen were sent down on each side as examiners; Mr. Donkin and Mr. Brunel for the plaintiff, and Mr. Clegg and Mr. Bramah for the defendants. Defendants' mode was to pass the tubes between two rollers with grooves in them; and it was contended they were completely welded by that process. If this was the only process used by defendants for the purpose of welding, plaintiff would not have instituted this inquiry, but defendants, after passing the tubes through the rollers, while they were at a welding heat, passed them through what they called a "scorpion," which was nothing more than plaintiff's die, and by that means produced all the effect of plaintiff's method. Defendants contended, that the scorpion was only for the purpose of scraping and lengthening, and not for the purpose of welding: but it would be shewn, that the welding could not be completed without the scorpion, by rollers alone. The imitation consisted in passing the tubes, at a welding heat, through these dies; and if this point was established, plaintiff's case would be established. Defendants said, that they did not weld by the scorpion, but by the cylinders,—that the scorpion was fifteen feet from the furnace; and before the tube could be conveyed that distance, it was too cold for welding. That plaintiff admitted that there was a weld by passing through the rollers, but a very imperfect one; and tubes welded

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so as to admit a tube on one side rather larger than the opposite side; and by drawing it compressed the edges, and gave the required formation to the tube. The experiment was successful; the tube was completely welded without the necessity of the mandrel. When this invention came into the market, it reduced the price of tubes one-third. The patent was for the mode of manufacture, and not for the apparatus itself.

The Learned Counsel then described minutely from a model and various instruments and tools, the mode pursued by the plaintiff, of drawing the tubes through dies at a welding heat. He then said that a person of the name of Royle was in the plaintiff's employ, and afterwards went into that of defendants: he was the person said to be the inventor of defendants' method. That plaintiff having obtained evidence that defendants' method of manufacture was an infringement of his patent, he filed a bill in the Court of Chancery, and an order was obtained for the inspection of defendants' process. Two scientific gentlemen were sent down on each side as examiners; Mr. Donkin and Mr. Brunel for the plaintiff, and Mr. Clegg and Mr. Bramah for the defendants. Defendants' mode was to pass the tubes between two rollers with grooves in them; and it was contended they were completely welded by that process. If this was the only process used by defendants for the purpose of welding, plaintiff would not have instituted this inquiry, but defendants, after passing the tubes through the rollers, while they were at a welding heat, passed them through what they called a "scorpion," which was nothing more than plaintiff's die, and by that means produced all the effect of plaintiff's method. Defendants contended, that the scorpion was only for the purpose of scraping and lengthening, and not for the purpose of welding: but it would be shewn, that the welding could not be completed without the scorpion, by rollers alone. The imitation consisted in passing the tubes, at a welding heat, through these dies; and if this point was established, plaintiff's case would be established. Defendants said, that they did not weld by the scorpion, but by the cylinders,—that the scorpion was fifteen feet from the furnace; and before the tube could be conveyed that distance, it was too cold for welding. That plaintiff admitted that there was a weld by passing through the rollers, but a very imperfect one; and tubes welded

only by that means would not be marketable. If defendants' scorpion was only for the purpose of scraping, why make it bell-mouthed? It had been said by defendants, that they could not pass their tubes through the scorpion at a welding heat, because they poured water on the scorpion; but it would be proved, that the heat of the iron was so intense, that even if you poured water on the iron itself it produced no effect, but was still at a welding heat. As to distance, it would be shown, that, instead of fifteen feet, it would continue at a welding heat though carried to a distance of fifty feet; that it retained a sufficient heat for seventeen or eighteen seconds, whereas it might be carried from the furnace to the scorpion in less than two seconds, and by a second and a half more it was put into the scorpion and finished. The rollers were a perfect subterfuge, and only introduced to give colour to avoid plaintiff's patent. An attempt had been made before the Lord Chancellor, to shew, that the original inventor and patentee of the plaintiff's mode of manufacturing, was a person of the name of Cook; but that gentleman would prove himself, or it would be proved for him, that ever since the plaintiff's invention, he had ordered various quantities of the pipes from plaintiff. Was it not odd, that Cook should say, "I am the inventor of this method of manufacturing, and have a patent for it," and yet be at the trouble of purchasing the tubes from plaintiff?

The Learned Counsel then explained from a model, the principle of Cook's patent, of passing the iron through a series of graduated holes, pressing it first through a large hole, then through a smaller, then through a smaller still, and so on until it had assumed the form of a tube. There was no welding here at all; and the process was so laborious and expensive, that it was not worth one farthing. But if the process in dispute was known before, how came the plaintiff, when he had patented this method, to carry the market before him in the manner he did? That was a sufficient answer to this objection. But when it was found how eminently successful the plaintiff's method was, then these attempts were made to evade or upset it. No doubt every thing that legal skill could do for this purpose, would be done by the learned Solicitor-General.

The plaintiff's patent and specification were then put in, and read by the officer of the court, as was also the specification of Royl's patent.

Mr. Bryan Donkin, examined by *Mr. Follett*.—Has been a civil engineer for forty years. Has seen iron tubes made, but not in a large way. Went down by order of the Court of Chancery with *Mr. Brunel*, to *Mr. Russell's* works, last August. Witness first read the specification, and then inspected the works in their ordinary mode of working; then what they call a "skelp" was heated to a welding heat in one furnace, and carried to another at the distance of about fifty-five feet; it was then drawn through the tongs and found to be perfectly welded. The welding heat continued while the tube was taken from one furnace to another, a distance of fifty-five feet. The dies were conical dies. The pincers used by the defendants answer the same purpose as plaintiff's dies. The object of the experiment of taking the tube fifty-five feet, was, to ascertain whether it would retain a welding heat for that distance, which it did. They (witness and *Mr. Brunel*) next examined the sand, to see if there were any borax or other matter mixed along with it, but found it was merely sand. The place about the furnace mouth was strewed with sand; in drawing out the tube at a welding heat they drew the edge over the bed of sand, and then replaced it in the furnace. The object of using the sand was to prevent the access of the atmospheric air operating on the iron; it was the same sand as is constantly used by blacksmiths. Another tube was then tried, and found not to be welded. Another, the length of seven feet, had the appearance of being sound, but was afterwards found not to be so. The time in which a 3-feet 6 tube was passed through the die, was three seconds and a half. The failures were owing to the agitation of the man, who was quite in a tremor. The time of passing from one furnace to the other occupied about ten seconds. Several tubes of about one inch in diameter were done in the same way. Some of what the workmen call "layter," which is the *scoria* from the tube, was caught in a shovel in a semi-fluid state; in a subsequent drawing the scale came off. The tubes pass through three holes, in order to reduce them to a proper size, and the welding heat continues all the time. The tubes are lengthened considerably each time they pass through these holes; one of 5-feet 6, was drawn out to 8 feet. Seven tubes were drawn half their length at the distant furnace, and the other half at the furnace at which they were heated;

these were passed four times through the tongs; one was spoiled by over-heating; another would not stand the proof: the five remaining stood the proof of 168 lbs. to the square inch. Took one of them and cut it in pieces, and found it was properly welded. Some of the tubes were tried with 5,450 lbs. to the square inch. Went the next day with Mr. Brunel, Mr. Carpmael, and Mr. Russell, junior, and then saw the screw-press and dies used, which is another mode mentioned in the specification; and saw several tubes made by that means. This mode was found to answer; but the tongs were the most convenient method. After this went to the defendants' manufactory, Messrs. Cowley: Mr. Bramah and Mr. Clegg were there. Saw the rollers which have been described, making about 120 revolutions per minute. Asked Mr. Cowley if that was their ordinary mode of working, and he said, they had no other. The workmen were then employed in drawing tubes of about one inch diameter to pass through the rollers. The tube was drawn through a hole by a revolution of the rollers, without the chain. The grooves in the rollers were nearly cylindrical. The scorpion is about fifteen feet from the furnace; the scorpion is an instrument with three graduated conical holes in it; it was fixed on a cast-iron frame. This instrument is precisely the same as the tongs at Mr. Russell's. The tubes were passed four times through the rollers, and put back into the furnace between each time; the tubes were allowed to remain longer in the fire than at Mr. Russell's. After being passed through the rollers, they were taken to the scorpion.

[The mode of working of the defendants was here described from a model and instruments.]

The tubes were passed through the scorpion at a welding heat. Some were then made by the rollers only; some of these were welded as well as those passed through the scorpion; others were imperfectly welded, not at all in some parts. Those that passed through the rollers are very liable to injury from the bad shape, one part of the iron being driven past the other: this arises from the pinch of the rollers. Gas pipes might be made by this means, but they would not be marketable. Those that were passed only once through the rollers would not stand a sufficient pressure for gas pipes; they gave way at a very low pressure: two were passed twice and stood

the pressure, but they were of a bad shape; they were oval-shaped; they were made so that they could not be screwed together; they were not fit for gas pipes; this arises from not having passed sufficiently often through the rollers; they ought to pass four times through the rollers to be properly welded. Does not believe it possible to make a cylindrical pipe through rollers, on account of the irregularity and uncertainty of the pressure.

The Chief Baron.—The rollers, according to this evidence, are perfectly useless. What is the use of passing them through the rollers in the first instance, and afterwards through the scorpion?

Sir James Scarlett.—It is perfectly useless.

The Solicitor-General.—The scorpion is for lengthening and scraping.

The Chief Baron.—The scorpion is a process in the form of the tongs, according to the appearance of it and Mr. Donkin's evidence, and it passes through at a welding heat; the scorpion is like the tongs; passing through the tongs they are perfect, therefore passing through the scorpion they are perfect; therefore the rollers are of no use.

Mr. Donkin continued.—Requested Mr. Cowley to allow some tubes to be made by the scorpion only, but he refused. Mr. Bramah was there at the time and approved of the proposal. Mr. Hooper (plaintiff's solicitor) repeated the request; Mr. Cowley said if they were to do that they would be infringing Mr. Russell's patent. Requested Mr. Bramah and Mr. Clegg to come to plaintiff's factory, and see it done there, which they did the next day.

The Chief Baron.—Was that refusal mentioned to the Lord Chancellor?

The Solicitor-General.—The order was that they were to see the manner in which the business was conducted on the part of the defendants; and they did so.

Sir James Scarlett read the two orders of the Lord Chancellor.

Mr. Donkin continued.—At the defendants' factory next day, the experiments before-mentioned were repeated in the presence of Mr. Bramah and Mr. Clegg, of heating the tubes in one furnace, and then taking them to a distant one; the distance between the two furnaces was measured by Mr. Bramah and Mr. Clegg, and found

to be fifty-five feet. Seven tubes were welded in the usual manner, passed twice through the tongs, and were found some united, and one perfectly welded. The time occupied was seventeen or eighteen seconds from the time of leaving the first furnace to the end of the second drawing, and the iron continued at a welding heat; the screw-press and the die were also tried in the presence of Mr. Bramah and Mr. Clegg. Some objection was made by Mr. Dixon and Mr. Clarke (defendant's solicitor) about the sand; one tube was made without sand, but it was found bad; this was the only one made without sand. An experiment was afterwards tried to ascertain whether the welding heat continued after passing through the tongs; the tubes were drawn at the furnace mouth, some once and some twice, and taken to the anvil at eighteen feet from the furnace, and there hammered together, and found perfectly welded. The tubes made at the defendants' factory by the rollers alone were not fit for the market, but those made by the rollers and the scorpion were as good as Mr. Russell's, with the difference of the shape only. Has read the specification and seen the method of working at plaintiff's, and also the mode of working at defendants', and considers the passing through the scorpion at defendants' an infringement of plaintiff's patent; if the rollers are taken away it is precisely the same as the plaintiff's. But very few tubes per day could be made by the defendants' method.

Cross-examined by the Solicitor-General.—Is acquainted with the draw-plate for drawing wire; that has been long known: it consists of conical graduated rings; lead pipes are drawn in the same way; the lead pipes are drawn cold. Was not acquainted with the mode of welding cylinders by rollers before 1825. In the welding by the rollers and by the die, the mechanical operation is different; but the union is the same in both—by pressure in a state of welding-heat. Did not know of the draw-plate being applied for elongating, forming, and scraping, before 1825; has used it for copper and brass, but not for drawing and scraping. Was very little acquainted with the process of making gun-barrels before 1825; there may have been many processes he (witness) knew nothing of. Has no doubt the process of heating iron for tubes in a blast furnace was well known. Attempts have been made to weld upon a mandrel in a common furnace, but have failed. Accord-

ing to Russell's mode, the process is completed by once passing through the tongs; but it would not be prudent to trust to once passing only, but it may be done, if care is taken in the adjustment of the width to the diameter. At Russell's the tubes were passed several times through the die, for the purpose of being scraped and elongated. A $1\frac{1}{2}$ inch tube was drawn once only, and tried first with a pressure of 84lbs., which it stood; then with 126lbs.; and ultimately with 168lbs., which it stood. Generally speaking, they may be completed by one passing, if care be taken: if the adaptation was nicely adjusted, there would be no necessity for a further operation. The three graduated holes in the tongs are for the purpose of lengthening the pipes, and bringing them to the diameter required.

Re-examined by Sir James Scarlett.—Remembers there was some objection raised by Mr. Dixon and Mr. Clarke about the sand being used at plaintiff's and not at defendants'. Witness has employed sand in blast-furnaces for the last thirty years, to prevent the heat being abstracted. There was nothing in Cowley's manufactory to prevent their using it if they liked. All blacksmiths use it in welding. To accommodate the size of the hole to the tube wanted, would require more time and greater nicety. The weld is as complete at first as at any subsequent operation. After passing through the graduated holes, the internal and external surface is rendered smooth; this is not accomplished by the roller alone, but in a great measure by the scorpion. Messrs. Cowley, with their machinery, can make pipes as good as plaintiff's; but take away the scorpion, and leave them their roller only, and they cannot do it; if the rollers were taken away, and scorpions only used, it may then be done.

The Solicitor-General said he would now take the opinion of his Lordship as to the validity of the specification. The patent is clearly void on the ground that too much is claimed. Even assuming that welding by a die is new, there is that claimed in the specification which is old. The real invention claimed is, that the iron is "passed through a pair of dies of the size required, by which means the edges of the iron will become welded together." All that goes before is old, but is claimed as new. There is nothing new in the "heating in a blast

furnace," nor in "preparing a piece of flat iron with the edges bent up at the sides." As Sir James Scarlett stated this mode of preparing the iron, and making what is called a "skelp," was perfectly well known; but Whitehouse's patent embraced all that; and in no part of his specification does he confine it to the welding. Sir J. Scarlett referred to the words in the specification, "I do not confine myself to the employment of this precise construction of apparatus, as several variations may be made without deviating from the principles of my invention, which is to heat the previously proposed tubes of iron to a welding heat," &c.—that is the part he claims; but here, when he concentrates his claim, he says, "I do not confine myself," &c. But his invention is "to heat the previously proposed tubes of iron." He claims the heating just as much as the pressure.

The Chief Baron said he understood the invention to be—a tube of iron was prepared and heated to a welding-heat, and then drawn through pincers. The invention consisted in heating the previously prepared tubes of iron to a welding heat, and then drawing it into the state required.

The Solicitor-General.—He claims the preparation of the tubes before they are submitted to the die, just as much as the compression by the die.

The Chief Baron.—The principles of the invention are heating the tubes to nearly the point of fusion, and then drawing them between the dies, by which the edges are pressed together and the joint firmly welded. What you (Mr. Solicitor-General) rely on, is the mode in which he does it.

The Solicitor-General.—He claims the whole; and if the whole were new, then the adoption of any part of it would be an infraction of the patent: the specification cannot be construed by referring to what is in the private knowledge of your Lordship—that the heating was known and notorious; but must be construed as if perfectly new, and then it would have been part of the invention claimed, and the adoption of it an infraction. He claims preparing the plough plate-iron, then heating it in a blast furnace to nearly the point of fusion, just as much as putting it through the die, and so welding.

The Learned Counsel then cited the case of *Macfarland*

v. Price,* and also the case of *Hill v. Thompson and Forman*,† and argued that because that was claimed in defendants' specification, which was before known, that therefore the patent was bad.

Mr. Platt was about to follow the Solicitor-General when he was interrupted by

The Chief Baron, who did not consider the objection tenable.

Mr. Platt hoped his Lordship would take a note of the objection.

Mr. Richards followed on the same side.

Sir James Scarlett submitted that plaintiff did not claim the precise construction of apparatus; that deviations might be made, therefore he might use another furnace if he liked.

The Chief Baron.—Every person who prepares a specification, at the close states what it is he claims; and the fair way is to look how he claims it. The formal way of doing it is this: "The principles of my invention are these—to heat," &c. That is the whole of his claim; all the rest is a description of the manner in which it is effected. That is the way this instrument ought to be construed. All these objections may be taken at any future time, by application to this Court or to the Court of Chancery.

Part of invention stated in the claim & spec.

Joseph Lindon (examined by *Mr. Rotch*). Is a machinist at Tipton, in Staffordshire. Was formerly gas-tube manufacturer and contractor for Horsley's Iron Company. Remembers the time when Whitehouse's invention was first brought out: it made a great change for the better in the market. The market could not be supplied in consequence of the welders striking for wages. Witness explained the processes previously in use. Benjamin Willets was at one time in witness's employ: during the period he was in his employ, never heard of tubes being welded in Whitehouse's manner: it would have been impossible for Willets to have done any in this manner at witness's premises without his knowledge. All the pipes made at his (witness's) factory passed twice through his hands. The appearance of gas-tubes made upon Whitehouse's principle was so different to the old principle, that he could not have failed to detect it. Knew Cook's patent, but never saw any of his tubes in the market.

* *Ante*, p. 309.

† *Ante*, p. 381.

Cross-examined by the Solicitor-General.—Examined every pipe that left his premises. Never saw gun-barrels scraped or elongated by means of the draw-plate. Plaintiff's invention is the most superior he ever saw.

Re-examined by Mr. Rotch.—The change in the price of the article when plaintiff's invention came out believes was from 9d. to 6d. per foot.

Mr. Joseph Hobbins (examined by Mr. Follett).—Was in the service of Mr. Russeil for some years before Whitehouse's discovery. When witness went into his service the price was 10d. per foot; then it came down to 9d.; afterwards it came down to 6d., and even lower than that in some instances. By the mode of making by hand, it would have been impossible to supply the demand. Plaintiff's pipes are used for general purposes: Mr. Perkins has had a great number of them for circulating hot water. Benjamin Cook, of Birmingham, has had some thousands of feet. Knows George Royle; he was in Mr. Russell's service formerly, while the patent manufactory was carried on, and assisted in making the tools for it: Royle went afterwards into the service of Messrs. Cowley.

Mr. M. I. Brunel (examined by Sir J. Scarlett).—Is an engineer. Went down to see Mr. Russell's mode of making pipes with Mr. Donkin. The mode described by Mr. Donkin accomplished the object perfectly well. Was quite satisfied that the welding heat may be retained seventeen seconds, and probably much longer.

[The evidence of this gentleman was in a great measure similar to that of Mr. Donkin; it will not, therefore, be necessary to repeat the account of the experiments.]

The rollers do not make a round pipe. The rollers were not of the least use. The welding might have been done more speedily and more effectually by the scorpion. The roller is so rickety and loose a thing, that it cannot make tubes perfect. Defendants could not make more than fifty tubes a-day, if they worked at the same rate as shown to the inspectors, the process was so excessively slow and dilatory. The increase of time must be a great increase of expense. The time it took at plaintiff's was much the shortest. The defendants' tongs are the same as those of the plaintiff. Considers plaintiff's invention of great utility.

Cross-examined by the Solicitor-General.—Has seen something of the manufacture of pipes, but not about gas-pipes. Was not interrupted in carrying on the ex-

periments by the crowd. The rollers made some perfect welding, fit for gas-pipes in strength, but not in appearance. At Mr. Russell's the tube can be welded and completed by passing once through the die. One purpose of passing several times through the die, is, to lengthen the pipe. Defendant's scorpion is not for scraping. Water was dripping upon the bearings of the rollers at the defendant's factory, but there was no necessity for it. Water was also dripping upon the scorpion.

Re-examined by Sir J. Scarlett.—The tongs were dipped in water each time at the plaintiff's, so that the water was as effectual in the one case as in the other.

Mr. William Carpmael, examined by Mr. Rotch.—The difference between the ordinary gas-tubes formerly manufactured, and those of Mr. Russell is very perceptible, and is evident to the most inexperienced.

The Chief Baron.—These are very superior to the pipes manufactured in the old way.

Mr. Solicitor-General.—No doubt it is a most useful process.

The Chief Baron.—An useful and beneficial change from the old mode; you do not deny that?

Mr. Solicitor-General.—No, my Lord.

Mr. Carpmael, continued.—It would not be possible to draw pipes, previously welded with the rollers, through the scorpion, without materially improving them. The edges would be more intimately welded by passing them through the scorpion at a welding heat. Any inequality in the welding or on the surface would be removed, and the surface made perfectly cylindrical. Thus tubes before unmarketable would be made marketable by drawing them at a welding heat through the scorpion.

Examined by the Chief Baron.—The welding would be improved if there were any defect. The tubes being at a welding heat, the drawing them through the scorpion would complete the welding.

Examined by Mr. Rotch.—Tubes were formerly made about four feet. Mr. Russell makes them fifteen feet. The greater the length the more difficulty when made with a mandril, which was the old plan. If water were used to fall on the chaps of the dies in the defendants' manufactory, that would not be sufficient to destroy the welding heat. It would scarcely have any effect; in-

deed, no perceptible difference would be observed for a considerable length of time. Water cannot be brought in contact with white hot iron. The operation of sand will not, under the circumstances, have any material effect in retaining heat. The shortness of the time employed in drawing renders it unnecessary for the purpose of retaining heat. The sand is more used to keep the edges of the iron clean than anything else. Some tubes were made without sand. A piece of iron tube was made and welded by drawing it twice through the dies, and then carried to an anvil eighteen feet from the furnace, and beaten into a mass of iron,* thus evidently shewing the welding heat was retained at that distance. There were four or five tubes made without sand, but the inspectors paid no attention to them. Mr. Bramah expressed his dissent, and requested that no note as to his being in any way concerned in so absurd a request should be made, stating that sand was used by every blacksmith. Saw several pipes welded without their edges being rubbed through the sand. They were completely welded at the distance of fifty-six feet from the furnace where they were heated. Broke some of them on the beak-iron: they broke indifferently; that is, they did not break in the weld more than in the other parts.

Cross-examined by Mr. Richards.—The rollers are certainly of no use: the tendency of the different parts of the grooves to travel at different relative speeds would be to separate the metal when in nearly a fused state, and thus produce tubes anything but cylindrical, even supposing the weld was good.

Examined by the Chief Baron.—The rollers are of the same diameter, but the grooves on them are of a different diameter. The bottom of the groove in each roller is of less diameter than the outer diameter of the rolls, consequently the parts travel at different rates; thus there is a tendency to drag the outer part of the tube unequally, and to separate the fibre of the iron, which is drawn out only by the friction or adhesion to the surfaces of the grooves, and thereby producing pipes which are unequal on their surfaces.

Examined by Mr Rotch.—The pipes could be made

* The witness produced the mass of iron.

as perfect and as well as at Mr. Russell's, if they were made with the scorpion alone and never passed through the rollers at all. The rollers are injurious.

Edward Humphreys, examined by *Mr. Follett*.—Is a millwright residing at Wednesbury. Made the rollers for defendants; they were so made that they might be stopped from rolling, and to draw the tubes without rolling at all. Put up the scorpion afterwards under the direction of Royl. Has seen the defendants pass the tubes through the scorpion at a welding heat. Has seen the *layter* dropping from the iron while passing through. It takes about nine seconds in taking from the furnace and passing through the scorpion. Water was applied to the scorpion, at different times, to keep it cool. Witness fixed the machinery at the plaintiff's mills. Defendants' holes are exactly the same as the plaintiffs. Saw some trials made with the rollers without the scorpion, which did not succeed.

Cross-examined by the Solicitor-General.—The scorpion was not part of defendants' original plan. Has seen the rollers tried alone many times, and they will not make complete welds. The superior roller is raised by a lever, to allow the tubes to be introduced. Never saw one upon this principle before.

Re-examined by Sir J. Scarlett.—The pressure on the rollers is not equal, because the outer part of the surface of the rollers turns so much quicker than the small part. Had no instructions for the scorpion at the same time as the rollers. Tongs were tried before the scorpion; the tongs were forced along the tubes in place of drawing the tube through the tongs. The use of the defendants' scorpion is the same as the plaintiff's tongs.

Joseph Thursfield, examined by *Sir J. Scarlett*.—Is a socket welder. Has worked for defendants. Defendants tried to make the pipes without rollers, with tongs only. Witness brought the tongs from Mr. Cowley's harness factory, in a bag, down to the mill. They were not worked in the day-time, but worked at night.

Cross-examined by Mr. Platt.—Richard Howel and George Royl were present when the pincers or tongs were used. Witness was sent out to watch; the engine was going at the same time.

Joseph Tomes, examined by *Mr. Rotch*.—Had assisted

in putting up the machinery in both plaintiff's and defendants' works. [The witness described the defendants' mode of working similar to the preceding witnesses.]

Moses Hadley was examined on the same point.

William Russell, examined by *Mr. Follett*.—Worked at defendants' at the time they used the tongs. Recollects a law notice being served on Mr. Cowley, who gave orders to George Royle to cut up whatever tongs were about the place, which was done. Witness was present when they were cut up. The scorpion would weld the pipes without the rollers; the rollers are of no use at all.

Cross-examined by Mr. Platt.—Was in the service of defendants two years. Their ordinary mode was to pass them through the rollers first, and afterwards through the scorpion; they were not welded by the rollers, but by the scorpion.

Thomas Hayes, examined by *Mr. Rotch*.—Is a workman of Mr. Russell's. Went to Walsal several times to see what defendants were about. Went there on the 29th November, 1832. A man of the name of Lloyd went with witness, and a Mr. Lees went to the house of a man named Allen, where they could see the interior of defendants' factory, about five o'clock in the evening. Saw about forty tubes made in the defendants' factory. They passed them through the scorpion at a welding heat; saw the *layter* fly off four or five yards; they passed them through the scorpion two or three times. Went several times afterwards to the same house for the same purpose; defendants' process was the same every time. Defendants did not know they were watched.

Cross-examined by Mr. Richards.—Witness looked from the chamber window; cannot tell whether there was more windows than one in the room; thinks there was only one. It was the second floor; the building stands on a high hill.

David Lees, examined by *Mr. Follett*.—Is a watch-spring maker, and one of the persons who went with the preceding witness to see defendants' mode of working. [This witness corroborated generally the evidence of the preceding; but did not see the defendants use the scorpion.]

Thomas Edwards was examined by *Sir J. Scarlett*, as to the defendants' mode of working. The first scorpion that was put up was a temporary one, bell-mouthed, and put the reverse way; but they could not make the tubes

that way: told the men they must turn it the other way, which they did, and then they succeeded in making good pipes. This was before they got the rollers: subsequently they got the rollers, and afterwards the scorpion. Has never seen them make pipes with the present scorpion; has seen them make them with the rollers and the temporary scorpion. Mr. Dixon asked witness what he thought of their mode of working; witness told him he did not consider it altogether right, but thought it rather an infringement of the plaintiff's.

Benjamin Robinson and *James Robinson* gave evidence, similar to the preceding witnesses, as to the plan pursued by the defendants.

The Chief Baron said he wished to ask Mr. Brunel and Mr. Donkin a question: his Lordship then read to them the part of the specification where the inventor states his claim, and said:—In the rollers, when the upper roller is down, its lower edge lies upon the upper surface of the under roller, and there is a hole between the rollers, through which, by means of the revolution, the heated tube is drawn; what I want to know, is, whether that is not, without the scorpion, similar to the plaintiff's invention? Is the same effect produced by the rollers, though not so perfectly as by the dies? Is passing them through the rollers similar, though not so perfect, as passing them through the dies, or tongs?

Mr. Brunel.—So far as pressing the edges together, they are similar.

The Chief Baron.—It is by pressure of the sides of the hole that the edges of the heated iron are welded together?

Mr. Brunel.—Quite so.

The Chief Baron.—Then if it is a question of welding, is the one similar to the other?

Mr. Brunel.—It is similar, but not perfect.

His Lordship having asked Mr. Donkin if his opinion was the same, he replied in the affirmative,

The Solicitor-General then addressed the Court and jury for the defendants, and said:—I rejoice that the questions have been put to Mr. Donkin and Mr. Brunel. From these questions it is clear that the patent is not worth one farthing. A patent was obtained in 1811, by two persons named James and Jones, for welding by means of rollers, precisely upon the same principle as Whitehouse's.

In substance they are the same; the process is to be completed by pressure by means of a circle, through which the object passes; whether that is done by rollers, or draw-bench, or sliding the ring inside the furnace, is wholly immaterial: whether the ring passes along the tube, or the tube is drawn through the ring, signifies not; the principle is the same—to produce a welding by circular pressure. When it is made out that this process was known in 1811, it will be clear the plaintiff's is no invention, and that the defendants' are entitled to a verdict. It is a matter of the last importance to defendants, who were carrying on the business of gas-pipe manufacturers, as they imagined, according to law; but suddenly an application was made for an injunction; and the very costs of these proceedings would have almost ruined some people, such a number of affidavits were made, which so perplexed the Court of Chancery, that they sent the case to be submitted to a judge and jury. Not content with claiming an exclusive right, the plaintiff charges the defendants with gross fraud. Witnesses have been called to swear what will be most distinctly contradicted. It has been sworn that the rollers were a subterfuge, and that no *bona fide* use was made of them; that the tongs were used, and that the rollers were made a fixed die of; that the tongs were substituted for the rollers; and that in many instances an aperture was made in the furnace, the rollers wholly disregarded, and the skelps taken at once from the furnace to the scorpion, so that under the pretence of using Royl's patent, they took them at once, without the formality of passing through the rollers, to the scorpion. That the testimony you have heard is false, will be proved to demonstration. Thursfield, Hadley, and others, swore that it was constantly happening, that they passed the tubes from the furnace through the scorpion, without the rollers being used at all. They said this was done in the presence of Royl, Lees, Beech, and Green. These witnesses, and others, will be called, who will completely disprove that; who will prove that defendants always carry on their works in the manner they did when Mr. Brunel and Mr. Donkin were there—through the rollers and then through the scorpion. Hayes and Lees will be shewn, by mathematical demonstration, to have been guilty of perjury. It was utterly impossible they could have seen either

the rollers or the scorpion from Allen's house, unless they could see through a nine-inch wall, or round a corner.

[The Learned Counsel then explained from a model the situation of Allen's house and defendants' factory.]

If it had been proved that tubes had, on any occasion, been made without the rollers, that would not settle the question. It has been said, that the engine was worked in the night-time, but that is false; a boy was employed to get up the steam; and there was no clandestine use made of the engine at night. The real question to be tried is, whether Whitehouse's patent is a good one, and if so, whether the defendants have infringed it: whether it has been infringed or not, the patent is not worth one farthing.

First, this patent is invalid. There must be a discovery in order to entitle any one to a patent; if what is claimed was well known before, the patent is void. The process that Whitehouse patented was perfectly well known; not only welding by rollers, but passing through a conical ring, and also forcing the tube through a die. A patent was taken out in 1808* by Benjamin Cook, not for welding, but for the purpose for which the die-plate was used. Cook takes plates of iron or steel and forces them through graduated holes. The welding was done on the mandril; but then he drew, or forced them through the graduated holes, and passed them between rollers with grooves in them. The problem was, the proper mode of completing the tube when welded, and this was done by drawing through the draw-plate. Cook's draw-plate is defendants' scorpion, neither more nor less. The draw-plate is for elongating and forming, the scorpion is the same. Sir James Scarlett says the plaintiff claims for perfecting the pipes; but upon that ground alone his patent is demolished by this of Cook's in 1808. Another patent was taken out on the 26th day of July, 1811,† by James and Jones, for "An improvement in the manufacture of

* Cook's patent was not for welding; the plaintiff's patent was only for welding, there is not, therefore, any necessity for introducing Cook's specification, as the case in no way turned on that patent.—W. C.

† The specification was as follows:—

"To all to whom these presents shall come, &c., Now know ye, that in compliance with the said proviso, We, the said Henry James and John Jones, do hereby declare that our said invention is described, ascertained, and performed in manner following; that is to say: Take a

barrels of all descriptions of Fire-arms and Artillery," and was for welding by means of rollers, grooved to fit

skelp or piece of iron adapted for the purpose of making barrels for muskets, or any other fire-arms; let it be turned or brought into a form proper for welding, heat it in an air or reverberatory furnace or hollow fire, or any other fire proper for the purpose, and which is to be so constructed as to give a regular welding heat to one-half of the barrel at a time, or to any other given proportion desired; when it is heated to a proper welding heat, the mandril or stamp is to be expeditiously put into it, and the barrel placed or held on an anvil or swage grooved to fit the form of it; upon which several hammers worked by steam, water, or any other mechanical power, are caused to fall or strike with great velocity upon such portion of the barrel desired to be welded, and when sufficiently welded and hammered, which would be well known to a person accustomed to weld gun barrels, the stamp or mandril is to be quickly struck out before the hot barrel has time to contract too close or adhere upon it to prevent the stamp or mandril from being got out while the barrel is hot; but should that be the case, the barrel must be left until it is cold, when it should be lightly hammered, which will cause the barrel to expand a little round the stamp or mandril, and loosen it sufficiently to come out; and for the purpose the better to facilitate the getting out of the stamp or mandril from so large a portion of the barrel welded at a time, let the stamp or mandril be made of as regular, smooth, and perfectly round form as possible, and of a gradual gentle taper from heel to point. The number, weight, and velocity of the hammers may be varied according to the description of barrel desired; but for musket barrels, which are generally from three feet three inches to three feet six inches long, when it is wished to weld them at two heats, we recommend six hammers. The hammers should be ranged in a straight line side by side, as true and as close together as they will work free, and covering a space in length of about twenty inches, and in width about four or five inches; they should work very true upon the swage or anvil, and rise and fall together, or nearly together, or alternately; the faces of the hammers may be either even or hollowed out a little in those parts which fall upon the barrel when welding. The hammers may be fixed, connected, and worked by machinery, according to any of the well-known methods of working hammers. Or instead of welding the barrels by hammers as before described, they may be welded between a pair of rollers grooved to fit the form of the barrel, the rollers having either an alternate or rotary motion, and worked by steam, water, or other mechanical power; but we consider the hammers to be the best method, as making the soundest and most perfect barrels; in either way care should be taken to have the edges, seams, or joints of the skelp or piece of iron placed true together, to give the iron a regular welding heat, and to put in and take out the stamp or mandril as quick as possible. The advantages of our aforesaid method of heating barrels in a hollow fire, or an air or reverberatory furnace, and welding them by hammers or rollers worked by machinery is, that we are enabled to make them much sounder and more accurately and expeditiously than they are at present made; we prevent cinders, ashes, or dirt from getting into the inside of the barrels, or between the welding seam or joint which now often happens, and which causes the barrels to bore black, or otherwise to prove unsound.

the form of the barrel, having either an alternate, or rotatory motion. Now that is the exact way in which the

Our invention also extends to the turning of all kinds and descriptions of barrels for muskets or other fire-arms, in an improved turning machine or lathe with cutters, or sharp steel instruments or tools worked by machinery, with steam, water, or any other mechanical power. The turning machine or lathe is constructed and worked as follows :—There are three sliding bars, in length about four feet six inches, in width about eight or nine inches, and in thickness about two or three inches, or any other length, width, and thickness, according to the description of barrel to be turned, or strength required; the edges of which sliding bars are made to correspond to the exact taper or form the barrel is required to be when turned. Two of the sliding bars are placed horizontally, and on the same plane with the edges which correspond to the form of the barrel innermost, opposite each other, and about four or five inches apart, or at any other convenient distance. The other or third sliding bar is placed edgeways over the interval between the horizontal bars, with the edge or side which corresponds to the form of the barrel lowermost, and at about four or five inches or any other convenient distance above the corresponding sides or edges of the two horizontal lines. The ends of the three sliding bars are secured to a strong frame, and adjusted to a proper distance from each other. Upon one of the horizontal sliding bars is fitted and adapted a slide, carriage, or frame, to which the turning tools or cutters are secured and adjusted by screws or otherwise to their proper distances for acting as turning tools or cutters; this slide, carriage, or frame, is made to move within the tools or cutters very true and steady, and is guided in its direction by the edge of the sliding bar, which corresponds to the taper or form of the barrel. On the other horizontal sliding bar, and on the upper or third sliding bar, are similar slides, frames, or carriages, upon or to which are affixed bearers or guides, which slides, frames, or carriages, with the bearers or guides, are also made to fit very true to the sliding bars, and to move along them so as to be guided and directed by them to follow the exact form of the barrel. The black barrel should be first bored, and for the purpose of turning it true, the inside should be set as straight as possible. There is a steel mandril made to fit the inside of the barrel, upon which it is secured to prevent its turning round upon the mandril, the ends of the mandril work either with journeys and collars or centres, but we prefer journeys and collars; the mandril, with the barrel secured fast upon it, is then put into the lathe or turning machine in its proper position, which is nearly in a central horizontal line with the inner edges of the three sliding bars, which correspond to the taper or form of the barrel when turned. The mandril with the barrel upon it is turned by a spindle, which is, as occasion requires, thrown in or out of gear with the machinery. There may be one, two, or more cutters or turning tools placed close together or nearly so, and following each other; they should be adjusted to their places at the end of the barrel, to take or turn off as much as is necessary to give it its proper form and size; the bearer or guide from the horizontal sliding bar must be adjusted to bear against the opposite side of the barrel to the cutters or turning tools, and the bearer or guide from the upper or third sliding bar adjusted to bear on the top side of the barrel; the bearers or guides are to be fixed or placed to follow a little after the

defendants' make their rollers. It was on the expiration of that patent that Royl's was taken out. But it will

turning tools or cutters, and to bear against the barrel where the uneven part is taken off, and when the turning lathe or machine is at work, they are to keep the same relative position throughout the length to the end of the barrel. The use of the bearers or guides is to keep the barrel steady, to prevent its vibrating or springing from the cutters or turning tools, which it otherwise would do. The slides, frames, or carriages, with the turning tools or cutters, and bearers or guides, are made to draw or move along the sliding bars, by screws, or by any other of the well-known methods in use, for giving progressive motion to such like machinery. The spindle which turns the mandril and barrel, and the screws which draw or move along the slides, frames, or carriages, with the turning tools or cutters, and bearers or guides, are connected and work together by spur or tooth-wheels, having the relative velocities proper for turning of wrought-iron. The turning tools or cutters, and bearers or guides, being secured and adjusted to their places, and the spindle which turns the mandril and barrel being thrown into gear or connected with the machinery, the barrel is driven round, and the carriages or frames, with the cutters or turning tools, and bearers or guides, move regularly along it; the turning tools or cutters cutting or turning off the outer surface, and finishing it as they go on, from one end to the other; the bearers or guides following and steadying the barrel; when done, the lathe or machine or spindle is thrown out of gear, or unconnected with the machinery, and the barrel taken out; or the outer surface of the barrel may be turned or taken off by roughing tools or cutters only at the first operation, and finished with finishing tools or cutters afterwards, or it may be put upon the grind-stone to be finished; but this we wish to avoid, being desirous to do away with the use of the grind-stone, for the purpose of grinding barrels altogether; and we find we turn the barrels very true and perfect, into a state proper for filing with the turning tools or cutters once passing along it; by one roughing and one finishing tool or cutter, roughing and finishing at the same operation. The same care should be taken in turning barrels, as is necessary to be observed or taken in turning other articles of wrought-iron. Or, instead of two sliding bars upon which the bearers or guides are drawn or move along as before described, there may be only one, which should be placed or fixed in an obtuse angular position of about one hundred and thirty-five degrees; and the horizontal sliding bar upon which the cutters or turning tools move, with the lower or inner edge which corresponds to the form of the barrel about four or five inches, or any other convenient distance above the corresponding edge of the horizontal bar; upon this angular sliding bar, a sliding carriage, or frame, with a bearer or guide, moves along; the bearer or guide so made that it shall bear upon the top side of the barrel, and at the same time against the side opposite the cutters or turning tools, and made to move or draw along the sliding bar after the cutters or turning tools as before described, to follow the exact taper or form the barrel is required to be when turned; but we consider the first mentioned method of the two sliding bars, for the bearers or guides to draw or move along, to be the steadiest and best.

be shewn by two witnesses that the mode of making gas-pipes by, not merely the rollers, but the die, was known before 1825, that they practised it long before the plaintiff's patent; these men got information of this mode of making gas-pipes, and they practised it secretly, and thus made more pipes than they otherwise could have done; they made them by what is called a gripe, which is a pincer or die, through which they made the pipe pass when at a welding heat.

But if it be thought that the specific mode of welding by the die only is claimed, then it will be shewn there has been no infringement. If that patent were good, it has never been infringed by the defendants. Fig. 4, in Whitehouse's patent, one of the modes claimed, is precisely the same as the gripe that was used by two witnesses, Willets and Horner. Why was not Whitehouse, the

"The machine or lathe as before described may be made of cast-iron, or any other metal or substance adapted for the purpose.

"The principle and advantages of our invention of turning barrels for muskets or other fire-arms in a turning machine or lathe with turning tools or cutters, by machinery worked by steam, water, or other mechanical power, are, that when the barrel is fixed in its place, and the turning tools or cutters and bearers or guides adjusted to their places, and the spindle which turns the mandril and barrel, and moves or draws along the turning tools or cutters, and bearers or guides as before described, is thrown into gear or connected with the machinery, that the barrel shall be turned without any further aid or assistance from the workman, whereby one skilful foreman and an assistant may attend three, four, or more turning machines or lathes, and finish a greater number of barrels ready for filing much more perfect and true than they can be done by grinding, or by any other method now in use, with the same power and manual labour. Ground barrels are very frequently unequal sided, one side of the barrel being often near twice as thick, or having twice the substance of metal in it as the other, whereas by our method of turning the barrels, they are made more equal or thick sided; and consequently, much stronger with the same weight of metal than if the barrel was unequal, or thick and thin sided, and when the barrel is set straight, a more certain and much better aim may be taken; these we consider great advantages in the use and value of a musket or other barrel. We also do away with the use of expensive grind-stones, from which dangerous accidents very frequently happen, and the necessity of grinding the barrels, which is at all times a very laborious, dangerous, and unhealthy business; whereas our method of turning barrels is comparatively a safe, easy, and healthful occupation.

"In witness whereof, &c.

"HENRY JAMES,
"JOHN JONES."

inventor of the plaintiff's mode, produced as a witness? Royl will be called to shew the experiments he made; his discovery is the mode of arranging the rollers; he fixed the rollers flush into the wall, having one moveable, which might be elevated, or depressed by a lever and manual labour; and thus the welding was more complete than by the fixed ring, and for this he took out his patent. The iron was put into an air furnace, then passed through the rollers at a proper heat; the upper roller having been raised, is then replaced, and a circle formed, the machine is set in motion, and by the pressure the tubes are completely welded: they are then projected to the scorpion, which elongates, scrapes, and cleanses, and so fits them for sale. 'The novelty is the peculiar construction of the rollers; this is what is claimed—the doing the welding by rollers in a more effectual way. From the time of Royl's patent being taken out, to the present time, defendants' business has been conducted exactly according to the mode described in that specification; the scorpion has never been applied except for the purpose of lengthening and scraping. Mr. Brunel and Mr. Donkin, who, before their visit to Walsal, knew very little about making tubes, say that the scorpion at least furthers, advances, and improves the welding; but if the welding has once been completed, you cannot discover where it has been effected; therefore, if the rollers weld perfectly, there can be no improvement in the welding by passing through the scorpion. In respect to the time, these gentlemen will be contradicted by persons of more experience than themselves. In the experiments made of carrying fifty-five feet, they all failed, except one, where a flux was not used. The use of the flux is to prevent the atmospheric air from approaching the iron, and withdrawing the heat, and keeping at a welding heat a good many seconds longer. In no instance was a flux used at the defendants,' but the welding was completed by the rollers, with water dropping on them, which prevented the welding heat from continuing in the scorpion.

A good deal has been said about the *layter*, the falling of which is a test that it is at a welding heat; but what Mr. Brunel and Mr. Donkin saw was not *layter*, but what is called *swarf*, and this may be mistaken by inexperienced persons for *layter*. Mr. Carpmael is the only

other scientific witness in the cause; but why have they not called iron masters, and manufacturers of gun-barrels or gas-pipes? Mr. Clegg will be called on the part of the defendants; he was the person who first introduced gas into the country, and has been acquainted with the making of gas-pipes many years. He will state, that there is no welding by the scorpion; the rollers do not make perfect pipes, but as far as the welding goes they do it much more effectually than the dies. Mr. Bramah will also be called for the defendants. Mr. Bramah was under a mistake at one time in supposing the scorpion was not sufficient to produce a welding, but on further examination, he found reason to correct his mistake. But he will still state that the welding is completed by the rollers. Mr. Thorneycroft, Mr. Cook, and others, will prove the same point; and also a considerable number of the defendants' workmen. The use of the rollers is that they weld more effectually and expeditiously than the draw-plate.

After some discussion between his Lordship and the Learned Counsel, Mr. Solicitor-General stated, that, on further consideration, he would not call any witnesses, but would rely on the objections at law, taken by him, to the plaintiff's specification, which he contended was bad in having claimed too much: that the manner set forth in the plaintiff's specification was, in substance, the same as that described in the specification of James and Jones in 1811.

His Lordship directed the Jury to find a verdict for the plaintiff.

RUSSELL v. COWLEY, DIXON AND OTHERS.

In the Court of Exchequer.—Easter Term, 1834.

Mr. Attorney-General (Campbell) obtained a rule *Nisi* to show cause why the verdict in this case should not be set aside, and a nonsuit entered, on the grounds that the patent claimed the welding generally by external circumferential pressure, and that James and Jones's patent of 1808 claimed to the same effect.

The Lord Chief Baron (Lyndhurst.)—It struck me at the time that it was done by James and Jones on the mandril. It

struck me that the only difference between the two was, that the one was done with the mandril and the other without. They say it is of great importance dispensing with the mandril. If that be so, the patent should be for doing without the mandril. When it was said to be the same thing, it was contended on the part of the Counsel for the plaintiff that it was not the same thing; for in the patent of James and Jones the mandril was used. Then I think I observed to Sir James Scarlett, "Then your patent should be for dispensing with the mandril." And I was inclined to consider the objection fatal; but at the trial I thought it better to go on.

Rule Nisi granted.

In the following Term the case came on for argument before the Lord Chief Baron (*Lyndhurst*,) *Mr. Baron Parke*, *Mr. Baron Alderson*, and *Mr. Baron Gurney*, when it was contended on behalf of the plaintiff that the specification claimed the use of external circumferential pressure without internal support. Every part of the specification indicated the absence of the mandril, and was contrary to its use. And on the part of the defendants it was argued that the mandril was not necessarily used by James and Jones, it was only directed to be used; that the specification of Whitehouse claimed the use of external pressure, whether by rollers or dies or any way, and therefore included James and Jones's invention, which was a previous patent.

The Lord Chief Baron.—There is no question in this case as to the infringement, at least there is no question before us at present as to the infringement; and the first question is, is this a new and useful invention?

That it is a new invention, and that it is an useful invention, no man, I think, can entertain any doubt. The invention, as I understand it, in fact, without referring at present to the objection made to the form of the specification, is to make pipes of this description without the use of the mandril, that it is to weld them without hitting them upon any solid surface, or without hammering them on any solid surface; and though that seems to be a very simple invention, it has been productive of great advantages; inasmuch as it has enabled the manufacturer to construct pipes for gas and other purposes very correctly, and also of lengths much beyond what could be done previously to this discovery. I think, therefore, in fact, practically it

is a new invention, and an invention of great importance. But then, it is said that this specification as claimed is not new, or in other words, that too much is claimed on the specification. Now the question, therefore, resolves itself into this, whether in point of fact, on the true construction of this specification too much has been claimed? Now as I read the specification (and I will refer to it more particularly presently), it appears to me that the claim upon this specification is to manufacture tubes of this description without having any mandril, or anything equivalent to the mandril, within it; the mandril is excluded: it is excluded in the particular description; it is excluded also in the general claim. First, as to the particular description. It describes, in the first instance, the turning up a plate of iron and forming it into a tube, and after it has been so formed into a tube it is heated in a furnace to a welding heat, and is then drawn through a die, or that which is equivalent to a die—those pincers (pointing to them)—and by those means the manufacture is completed; that is the particular description which excludes the mandril, not only excludes the mandril, but excludes any internal support; because the difference between this and the former mode of manufacture is, that the welding was produced by blows or pressure on the iron, the iron being supported on the inside by some solid substance. That being then the particular description, is the claim extended further by the general description, or the general claim? In my opinion it is not, because, when we advert to the terms of the specification, they are these: “I do not confine myself to the employment of this precise construction of apparatus, as several variations may be made” in the apparatus: the principle, he says, is “to heat”—what?—“to heat the previously proposed tubes of iron,” tubes of iron that had been previously prepared without anything within them, to heat those tubes to a welding heat, that is, nearly to a point of fusion, and then after drawing them from the fire to pass them between dies or through holes, “by which the edges of the heated iron may be pressed together, and the joint firmly welded.” Now, what does that amount to but this?—“I have described the apparatus by which these prepared tubes of iron, having nothing in them, are welded together; I have described the particular apparatus by which that is effected. I do not confine myself to that.

precise description of apparatus, but these previously prepared tubes of iron, which I have described, may be heated to a welding heat, and may by variations in this apparatus be drawn through dies, or holes, and formed in this way." But there is no suggestion that any alteration is to take place in what I consider the nature of the invention, namely, that this is to be done without any internal support, and if you go on further it is quite clear it was to be done without internal support, because he goes on and describes what the effects are—he says, "the advantage of this tube compared with those made in the ordinary way, are these—the iron is considerably improved by the operation of the hollow fire, the heat being generally diffused." Then he says, "the length of the pieces of tube thus made (that is the principal advantage) is likewise a great advantage, as by these means they may be made from two to eight feet long in one piece, whereas by the old modes"—so that he refers to the old modes of welding by the mandril—"whereas by the old modes the lengths of tubes cannot exceed four feet without considerable difficulty, and consequently an increased expense. These tubes are likewise capable of resisting greater pressure, from the uniformity of the heat throughout at which they have been welded; and lastly, both their internal and external surfaces are rendered smooth, and greatly resembling drawn lead pipes." So that independently of the words of the general claim, which, in my opinion, standing by themselves, would exclude the idea of any mandril being used, when he comes to point out the particular advantages resulting from this mode of manufacturing tubes, he points out advantages which are absolutely inconsistent with the use of the mandril. If so, then I think he has accurately described and limited his invention, which is an invention to manufacture tubes for gas and other purposes, by welding them without the use of any mandril, or internal support, by which certain advantages are produced. Those advantages are of the greatest consequence to the public. It appears to me, therefore, he has limited his claim to that which is really the invention, and having limited his claim to that which is really the invention, that being new, it appears to me that the patent is supported. I am of opinion, therefore, that the verdict for the plaintiff should stand.

The description of an invention may be properly limited by describing circumstances which necessarily control the invention so as to bring it within those limits.

Mr. Baron Parke.—I am also of the same opinion: and after the manner in which the case has been noticed, it will be unnecessary to make any observations at great length upon it. It has appeared to me, from the moment I understood the case, that the question at last would resolve itself into a question of the construction of the specification. It appears to have done so, and the whole turns on the meaning of the specification. If it is, as alleged by the Attorney-General, a claim for every mode of uniting pipes by passing iron, heated to a state of welding heat, then it is bad, because there was a mode before in existence and known before, which is described in James and Jones's specification, by which the same thing might be done; but if the claim is, as was alleged on the part of the plaintiff, a claim only of a different mode of making iron pipes in the particular manner described, by passing that iron, in a state of welding heat, through a circular hole, without any mandril or internal support, then it certainly is not the same thing that was done before. It appears to me, on reading this specification, reading it with that degree of intelligence which persons bring to bear on such subjects, that the meaning of the patent itself, is only that limited claim to the invention of making gas-pipes by means of passing the iron through a circular hole, without mandril or internal support; and I think we ought to read this patent without a disposition to upset it, which has been too frequently the case in many instances on such subjects, that we ought to read it fairly, in order to understand what the meaning of the patentee is. It is unnecessary to refer to every part; but reading the concluding part in connexion with what goes before, by which description every man who understands the subject must know that a mandril is not meant to be used; and also reading what comes after, when the advantages of this mode are pointed out, it is perfectly clear that he means to exclude the mandril; and then, if so, there is no doubt the defendants have been guilty of an infringement. I am certainly exceedingly happy to concur in the opinion which his Lordship has expressed, by which the fruits of a very ingenious invention will be secured to the person deserving it.

*I think
patent ought to be read
fairly - not with a
disposition to upset
patent.*

Mr. Baron Alderson.—I entirely concur in the opinion of my Lord Lyndhurst and Mr. Baron Parke. It seems

to me that, reading the specification of this patent, the plaintiff lays claim to the drawing of the heated tubes through a die for the purpose of welding them by that operation. When you examine the specification which the plaintiff has put in, after making it clear that the iron is first brought into the form of a long cylindrical tube, the operation then is thus described. "This tube is then put into a hollow fire, heated by a blast, and when the iron is upon the point of fusion, it is to be drawn out," (that is the tube,) without any mandril, because if the mandril were put in the furnace with it, the mandril would be heated too, and there is no description of the mandril being put in after the heating, previously to the second part of the operation. In James and Jones's patent I find the process just the reverse; for, after describing that the tubes are to be heated to a proper heat, the mandril is to be expeditiously put in, then the beating it by the hammer as described is consecutive. But here there is no mention of any mandril being put in; and the question is, whether any person reading that would not see that this is a description of an operation that was to be performed by means of drawing a hollow tube, previously heated, through dies for the purpose of welding; and if that be the limited construction to be put on the whole of the specification, fairly and clearly and candidly taken together, which I think ought to be the construction put upon patents, we ought not to be understood to deprive people of advantages which their own ingenuity and talents entitle them to receive; we ought to give them a fair and candid construction, certainly not by any means being astute to pick holes in their specifications. On these grounds, not going through the other part of the case, but now confining myself to this observation, which appears to me to be confirmed in a great degree by the view which his Lordship and my brother Parke have taken of the case, I have only to express my opinion, that this patent should stand.

Mr. Baron Gurney.—I can only express my entire acquiescence in what has fallen from my Learned brothers, and can add nothing further to what they have stated.

Rule discharged.

After the judgment, application was made to the Lord Chancellor for a perpetual injunction, which was granted.

It is admitted to be a description of a thing which was in a state of fusion, the description being consistent with its nature, is evidence that it is intended to be left out of the specification.

RUSSELL v. BARNSLEY.

*In the Court of Chancery, before the Vice-Chancellor, (Sir L. Shadwell.)
January 23, 1834.*

AN *ex parte* injunction had been obtained in this case from the *Lord Chancellor (Brougham)* on the 15th day of April, 1833, and it was part of the order that the motion should be heard by the Vice-Chancellor.

The bill stated that the defendant had made, and by himself and his agents offered for sale and sold, large quantities of pipes according to Whitehouse's invention, and, after the usual charges, prayed an account and injunction. The defendant, in his answer, denied the novelty of the invention, and stated that he was a vendor and not a maker of tubes; that according to his belief there was no material variance between the plaintiff's process and the one referred to by him; but of that one Willett was the inventor, and had used it for many years, and long before the patent of Whitehouse. That he had long ago relinquished the business of manufacturing to Willett, but continued to supply iron, and purchased tube back from him. The defendant also denied the novelty of the invention by reason of Cook's patent. The quantities of pipes sold, and prices, were set forth in a schedule annexed.

Mr. Knight now moved to dissolve the injunction.

The motion was opposed on the part of the plaintiff by *Sir E. Sugden* and *Mr. Campbell*, who argued that, under the circumstances of the case and the long-continued enjoyment of the plaintiff, and while an action was pending against other parties which would decide the question of the validity of the patent, the plaintiff would not even be put under terms of bringing an action.

The Vice-Chancellor.—I shall certainly continue the injunction; I may be wrong, but it really does appear to me at present that the principle in Whitehouse's specification—the thing he claims to have done—is to draw the tube when it is in a state of fusion immediately from the furnace, through the die, so that the very extraction from the furnace is to be simultaneous with the passage through the die, and, consequently, the state of fusion, or rather that approximation to a state of fusion, will remain

throughout the process, and that is different to what is stated by *Mr. Knight*.

I do not myself recollect a case in which, where the defendant has stated his wish—a defendant against whom a bill is filed for the infraction of a patent—to try the question at law, that the Court has refused to give him that opportunity; and what Lord Eldon says in the case of *Hill v. Thompson and Furman*,* is this:—“It was insisted on the part of the plaintiff, and the Court agreed to that position, that where a person has obtained a patent, and an exclusive enjoyment under it, the Court will give so much credit to his apparent right as to interpose immediately, by injunction, to restrain the invasion of it, and continue that interposition until the apparent right has been displaced.”

But it does not at all follow, because it appears to me at present that the patent is good, that there may not be a different view of it taken by a Court of law. I apprehend that the legal view of the thing is that which must ultimately bind this Court, and if the defendants wish to have the question tried at law, they must have liberty to do so.

Sir E. Sugden.—Of course I must admit the general principle, but the only ground on which I put it is the pendency of the other action.

The Vice-Chancellor.—At present I do not know enough about that case to say it will determine this. It seems to me the proper course to pursue will be to continue the injunction until further order, on the terms of the plaintiff undertaking to bring an action within three months, for the purpose of trying the validity of the patent. The infringement is to be admitted.

Order accordingly.

RUSSELL v. LEDSAM AND OTHERS.

In the Court of Chancery, before the Vice-Chancellor, (Sir L. Shadwell.)

THIS was an application for an injunction to restrain the defendants from making welded iron tubes for gas and

* *Ante*, p. 377.

† The action was brought, and the defendant pleaded, but subsequently withdrew his pleas, and the plaintiff had judgment by default. The defendant was subsequently committed for contempt of Court for a breach of the injunction, but discharged on undertaking to commit no further infringement, and payment of costs.—(*Webster's Pat. Cases*, p. 472.)

other purposes according to an invention for which letters patent were granted to Cornelius Whitehouse on the 26th day of February, 1825.* This was the first instance in which a patent having been extended under Lord Brougham's Act, 5 & 6 Will. IV. c. 83, by Her Majesty, by the advice of the Privy Council, had come before a Court of Equity, in order to restrain parties from using or imitating the invention.† The defendants in this case

* For specification see page 533 *ante*.

† This patent was extended for six years on petition to Her Majesty, and Lord Brougham, in giving the judgment of the Privy Council, said :—

“ Their Lordships having taken the whole of this matter into account, retain the opinion which they have had impressed upon their minds from the very beginning, that this is an invention of extraordinary merit, doing the greatest honour to the inventor, and conferring great benefit on the community; founded in this eminent merit, being not merely the application of a known principle, embodying it in new machinery, and applying it to practical purposes, but involving the discovery of a new, curious, and most important principle, and at the same time applying that principle to a most important purpose.

“ Their Lordships have, on the same side of the question, taken into account (which it is material to mention) Mr. Russell's merit in patronizing the ingenious and deserving author of this invention, in expending money till he was enabled to complete this invention, and in liberally supplying the funds which were requisite for the purpose of carrying the invention into execution.

“ On the other hand, their Lordships have taken into mature consideration (which they always do in such cases) the profit made by the patentee, Mr. Russell standing in the situation of the inventor. They find, that it is not a case as in claims of other inventions of great ingenuity, and certainly of great public benefit, of actual loss in some, and of very scanty, if any, profit realized in others, but that a considerable profit has been realized, and, upon the whole, no loss. It is to be observed, that that profit is not, perhaps, very much greater, if at all greater, than the ordinary profits on stock to that amount, employed without the privileges and extra profits of a monopoly. It is proper to consider that one great item of deduction from those profits also involves great pain, and anxiety, and suffering to the party, namely, the litigation to which he has been subjected, and which is generally found to be in proportion to the merit and the usefulness of a patent, namely, the temptation to infringe it, and to set at nought the right of the patentee, both in the Court of Chancery, when he applies for protection by injunction, and afterwards in a Court of law, when he comes to claim compensation for damages; the temptation being, as I have stated, in proportion to the benefit of, and the demand for, the invention. That is an item which has to a considerable degree attracted the attention of their Lordships in this profit and loss account, which has been laid before them in the course of these transactions.

“ Taking the whole of the matter into consideration, the merits of the patentee, the merits of Mr. Russell, and the loss that has been sustained

were using a machine consisting of four grooved rollers, together with an instrument called a mandril, according to the mode of welding iron tubes for which Mr. Richard Prosser, of Birmingham, obtained letters patent dated the 27th day of March, 1840. The four grooved rollers were so arranged as by meeting together they formed a circular hole, and by their revolution, they drew in the previously prepared tube of iron, when in a welding state, and by the pressure caused in the four directions by the rollers, the seam of the tube was welded, and the main question, as to the infringement was, whether the instrument called a mandril was a *bond fide* instrument, capable of giving internal support, or whether that instrument was so small as not to fill the interior of the passing tube, and hence leaving the weld to be performed by external pressure, aided by movement without internal support. It being contended on the part of the plaintiff that any welding of iron tubes by external pressure, aided by motion without internal support, whether such external pressure was performed by rollers, or by drawing the tubes through dies, would be according to the decision in *Russell v. Cowley, Dixon, and others*,* an infringement of the patent. On the part of the defendants it was contended, that the case of *Russell v. Cowley, Dixon, and others*, had not gone so far as to decide that all welding of iron tubes by external pressure without internal support was included in Whitehouse's patent, and that, therefore, the defendants, in using a new process, consisting of four rollers, two being vertical and two being horizontal, even if they did not use internal support, would not be an infringement of the patent. It was also contended that a *bond fide* internal support was given to the interior of the tube, at the moment of welding, and that the mandril was not, as was stated by Mr. W. Carpmael, and other of the plaintiff's witnesses, used colorably, but was highly useful on these points. Much evidence was given on both sides. It was also contended for the defendants that the mode of working by them under

in the litigation, and setting against those, on the other hand, the profits which have been made, their Lordships are of opinion that the term ought to be extended, and upon due execution being given to the undertaking, which has been just given on behalf of the inventor, that the term ought to be extended for the period of six years.

Report accordingly.

* *Ante*, p. 557.

Prosser's patent was very similar to *Osborn's* patent,* which was granted long before the plaintiff's patent; and that if *Prosser's* invention was an infringement on the plaintiff's patent, then the use of *Osborn's* patent would be an infringement on the plaintiff's patent, and therefore the plaintiff's patent must be bad in law. That the Court was not to be bound by *Russell v. Cowley, Dixon, and others*, as to the validity of *Whitehouse's* patent; because the patent of *Osborn* was not put in evidence in that case. In addition to this patent, there was also another, which had not been put in evidence in the case of *Russell v. Cowley, Dixon, and others*, or the Court of Exchequer would never have given so extended a construction to *Whitehouse's* patent as was now contended for; or if it had, it would have declared the patent void; as the previous patent of *James Russell*, of the 19th day of January, 1824,† described the welding by external pressure without internal support.

* For specification of this patent see p. 577, *post*.

† The specification was as follows:—

"To all to whom these presents shall come, I, James Russell, of Wednesbury, in the County of Stafford, Gas-Tube Manufacturer, send greeting: Whereas his Most Excellent Majesty, King George the Fourth, did, by his letters patent, under the great seal of that part of the United Kingdom of Great Britain and Ireland, called England, bearing date at Westminster the nineteenth day of January, one thousand eight hundred and twenty-four, in the fourth year of his reign, give and grant unto me, the said James Russell, my executors, administrators, and assigns, his especial licence, full power, sole privilege and authority, that I, the said James Russell, my executors, administrators, and assigns, during the term of years therein mentioned, should, and lawfully might, make, use, exercise, and vend, within England and Wales, and the town of Berwick-upon-Tweed, my invention of 'An Improvement in the Manufacture of Tubes for Gas and other purposes.' In which said letters patent, there is contained a proviso, that if I, the said James Russell, shall not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be enrolled in His Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever thereby granted shall utterly cease, determine, and become void, as in and by the same relation being thereunto had, will more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said James Russell, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained in the following description thereof, reference being had to the drawing here-

The defendants also stated that there were many questions of law involved in the re-granting of the new letters patent, the Queen having gone beyond the statute; and that, therefore, the patent was void; and it was also contended, that the plaintiff had obtained the new grant by fraud and

unto annexed; that is to say,—My improvement in the manufacture of tubes for gas and other purposes, consists in a new mode of constructing such tubes of wrought or malleable iron. To effect this, I provide plate iron, previously rolled to a suitable thickness, and cut into strips of such lengths as may be found desirable to constitute one piece or tube, these strips in breadth corresponding to the circumference of the tube intended to be formed. I now bend up the sides of these strips of plate-iron, by swages, in the usual way, so as to bring the two edges of the plate as close together as possible. The bent iron is then brought into a state of fusion, by introducing it either into an air furnace or a blast furnace, and when properly heated, is to be placed under a tilt hammer, in an apparatus of the kind shown in the drawing at Fig. 1, in which *a*, is an anvil, having a block or bolster, *b*, fixed upon it, with a semi-cylindrical recess; *c*, is the tilt-hammer, on the under side of which is also a block, *d*, corresponding to *b*; *e*, is a wheel with many teeth, which, being made to revolve upon its axis, causes the teeth to strike against the end of the hammer, *c*, and raise it, as shown by dots in the figure. The end of the imperfect tube, in a state of fusion, as above said, is to be placed between the recess of the blocks, *b* and *d*, when the hammer, by a succession of blows, beats the edges of the plate-iron together, and causes it to weld, the tube being progressively advanced as the operation goes on. The operation of welding may be done with a mandril, or without, as the manufacturer may think proper. When the edges of the iron have been thus completely welded from end to end, the tube is to be again heated in a furnace, as before, and then passed through a pair of grooved rollers, as shown at fig. 2, the front view, and fig. 3, the cross section. There are several circular grooves, represented at fig. 2, for the purpose of suiting tubes of different diameters. Supposing a tube to be passing through the middle groove seen at *a*, figs. 2 and 3, upon its delivery from between the rollers, the end of the tube meets the cone or egg-shaped piece, *b*, fig. 3, when, as the tube advances, sliding over this conical piece, its inside is rendered smooth, while its external form is perfected by the rollers.

"The advantages which are obtained by this mode of manufacturing gas-pipes, and other wrought-iron tubes, over those at present in use, are, that the internal and external surface will be perfectly cylindrical and parallel to each other, and that the irregularity occasionally arising from scales and other obstructions, will be altogether obviated. My claim of invention is not, therefore, to be considered as resting in the implements used in the operation, which are not new in their form or construction, but in the operation itself, which, as respects the forming of pipes and tubes of malleable iron, is new, and is therefore claimed by me as my invention and patent right.—In witness, &c.

"JAMES RUSSELL."

misrepresentation. The case was a very long time before the Court, and came before it many times; and ultimately his Honour directed that the plaintiff might bring such action as he should be advised; and ordered that there should be an inspection of the works of the defendants, and also the works of the plaintiff, by engineers, so as to give evidence at the trial, as to the means of working practised by the respective parties; and that all proceedings in the suit were to stand over until the trial of the said action, and either of the said parties were to be at liberty to apply to the Court as there should be occasion; and that the Court would reserve the consideration of all further directions and of costs, until after the trial of the said action.

RUSSELL v. LEDSAM AND OTHERS.

*In the Court of Exchequer, before Mr. Baron Alderson and a Special Jury.**

THIS was an action brought by the plaintiff to try the validity of a patent originally granted to Cornelius Whitehouse, the 26th February, 1825, for "Improvements in Manufacturing Tubes for Gas and other purposes."† The patent was assigned to the plaintiff. In 1838, the plaintiff petitioned Her Majesty to prolong the letters patent, and the matter of the petition came on to be heard before the Privy Council, and on the 4th of that month, an order in council was issued, directing the Secretary of State to prepare a warrant for new letters patent, for England, Wales, and the town of Berwick-upon-Tweed, for the invention of "Certain Improvements in Manufacturing Tubes for Gas and other purposes" described in the letters patent of the 26th February, 1825, for the further term of *six years*, from and after the expiration of the term granted in the said original letters patent. On the 7th day of February, 1839, the warrant for such letters patent was prepared and signed, and the letters patent passed through the various offices, and were sealed on the 26th day of February, 1839. The case came from the Court of Chancery, there having been questions of law raised

* The trial of this cause commenced on the 7th, and was continued on the 8th and 9th days of July, 1844; it was then adjourned, and ultimately finished in December of that year.—W. C.

† For specification see p. 533, *ante*.

against the validity of the letters patent, as well as a denial of any infringement. The Court of Chancery appointed Mr. William Carpmael and Mr. George Cottam, Civil Engineers, as inspectors on behalf of the plaintiff, and Mr. John Farey and Mr. John Barnes, Civil Engineers, as inspectors for the defendants, and they were to be at liberty to bring away from the defendants' and the plaintiff's factories, any pipes and tubes made during their inspection, so that the same might be produced to the Court.

The declaration stated that before the committing of the grievances complained of, His Majesty King George the IVth granted letters patent to Cornelius Whitehouse on the 26th day of February, 1825, for "Improvements in Manufacturing Tubes for Gas and other purposes ;"

That on the 9th of April, 1825, Cornelius Whitehouse assigned the letters patent to the plaintiff ;

That the said Cornelius Whitehouse did, within six calendar months, enrol a specification fully describing the invention ;

That the plaintiff duly advertised, according to the Statute 5 & 6 Will. IV., and before the expiration of the letters patent, that he intended to apply for a prolongation of the term of the said patent ;

That he did, within the term of fourteen years, petition Her Majesty in council for a prolongation of his term of sole using and vending the said invention ;

That Her Majesty did afterwards, and within the said term of fourteen years, refer the petition to Her Majesty's Privy Council ; and upon hearing the whole matter, the Judicial Committee of Her Majesty's Privy Council did report, that an extension of the term, to wit, six years, should be granted ;

That Her Majesty, on the 26th day of February, 1839, being the day of the expiration of the first term of fourteen years, granted to the plaintiff new letters patent ;*

* The new letters patent were as follows :

"Victoria, by the grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, to all to whom these presents shall come, greeting : Whereas, His late Majesty, King George the Fourth, by letters patent, under the great seal of our United Kingdom of Great Britain and Ireland, bearing date at Westminster the

That from the ending of the said letters patent, an annuity of 500*l.* per annum, had been secured to the said Cornelius Whitehouse.

twenty-sixth day of February, in the sixth year of his reign, did give and grant unto Cornelius Whitehouse, of Wednesbury, in the county of Stafford, whitesmith, his executors, administrators, and assigns, his especial licence, full power, sole privilege, and authority, that he, the said Cornelius Whitehouse, his executors, administrators, and assigns, and every of them, should, and lawfully might, make, use, exercise, and vend, a certain invention of certain improvements in manufacturing tubes for gas and other purposes, within that part of our said United Kingdom of Great Britain and Ireland, called England, our Dominion of Wales, and Town of Berwick-upon-Tweed, in such manner as to him, the said Cornelius Whitehouse, his executors, administrators, and assigns, or any of them, should, in his or their discretions, seem meet, to have, hold, exercise, and enjoy the said licence, powers, privileges, and advantages therein granted or mentioned, to be granted unto the said Cornelius Whitehouse, his executors, administrators, and assigns, for and during and unto the full end and term of fourteen years from the date of the said letters patent, next and immediately ensuing, and fully to be complete and ended according to the statute in such case made and provided, as by the said letters patent, (relation being thereunto had,) will more fully and at large appear; And whereas, James Russell, of Handsworth, in our said County of Stafford, gas-tube manufacturer, had humbly represented unto us that the interest in the said invention and patent was afterwards purchased by him, the said James Russell, for a liberal consideration, and that assignments of all benefit arising therefrom, were executed to him by the said Cornelius Whitehouse, and has humbly prayed that we would be pleased to grant to him, the said James Russell, new letters patent for the said invention for a term of seven years, after the expiration of the said term of fourteen years; And whereas, the Judicial Committee of our Privy Council have, in pursuance of the statute in such case made and provided, reported to us that a further extension of the term in the said letters patent, not exceeding six years from and after the expiration of the term in the original letters patent, should be granted to the said James Russell, in whom the legal interest in the said letters patent is now vested, upon his securing to the said Cornelius Whitehouse, the original inventor, an annuity of five hundred pounds sterling per annum, as long as the said extension of the said letters patent should last; Know ye, therefore, that we, of our especial grace, certain knowledge, and mere motion, have given and granted, and by these presents, for us, our heirs and successors, do give and grant unto the said James Russell, his executors, administrators, and assigns, our especial licence, full power, sole privilege, and authority, that he, the said James Russell, his executors, administrators, and assigns, and every of them, by himself and themselves, or by his and their deputy or deputies, servants, or agents, or such others as he, the said James Russell, his executors, administrators, or assigns, shall at any time agree with, and no others, from time to time, and at all times hereafter, during the term of years herein expressed, shall, and lawfully may, make, use, exercise, and vend, the said invention within that part of our said United Kingdom of

The declaration then, in the usual form, set forth, that the defendants did make, use, exercise, and vend, the said

Great Britain and Ireland, called England, our Dominion of Wales, and Town of Berwick-upon-Tweed, in such manner as to him, the said James Russell, his executors, administrators, and assigns, or any of them, shall in his or their discretions seem meet: And that he, the said James Russell, his executors, administrators, and assigns, shall, and lawfully may, have and enjoy the whole profit, benefit, commodity, and advantage from time to time coming, growing, accruing, and arising, by reason of the said invention, for and during the term of years herein mentioned: To have, hold, exercise, and enjoy the said licence, powers, privileges, and advantages, hereinbefore granted, or mentioned to be granted, unto the said James Russell, his executors, administrators, and assigns, for, and during, and unto the full end and term of six years, to be computed from the twenty-sixth day of February, in the year of Our Lord one thousand eight hundred and thirty-nine, being the day of the expiration of the first term of fourteen years, granted by the said letters patent herein mentioned, upon his, the said James Russell, securing to the said Cornelius Whitehouse, the original inventor, the said annuity of five hundred pounds sterling per annum, so long as these our letters patent shall last, and to the end that he, the said James Russell, his executors, administrators, and assigns, and every of them, may have and enjoy the full benefit, and the sole use and exercise of the said invention, according to our gracious intention hereinbefore declared, we do, by these presents, for us, our heirs and successors, require, and strictly command, all and every person and persons, bodies politic and corporate, and all other our subjects whatsoever, of what estate, quality, degree, name, or condition soever they be, within that said part of our United Kingdom of Great Britain and Ireland, called England, our Dominion of Wales, and Town of Berwick-upon-Tweed aforesaid, that neither they, nor any of them, at any time during the continuance of the said term of six years hereby granted, either directly or indirectly, do make, use, or put in practice the said invention, or any part of the same so attained unto by the said Cornelius Whitehouse, as aforesaid, nor in anywise counterfeit, imitate, or resemble the same; nor shall make, or cause to be made, any addition thereunto, or subtraction from the same, whereby to pretend himself or themselves the inventor or inventors, deviser or devisors thereof, without the licence, consent, or agreement, of the said James Russell, his executors, administrators, or assigns, in writing, under his or their hands and seals, first had and obtained in that behalf, upon such pains and penalties as can or may be justly inflicted on such offenders for their contempt of this, our royal command; and further, to be answerable to the said James Russell, his executors, administrators, and assigns, according to law, for his and their damages thereby occasioned. And moreover, we do by these presents, for us, our heirs and successors, will and command all and singular, the justices of the peace, mayors, sheriffs, bailiffs, constables, headboroughs, and all other officers and ministers whatsoever, of us, our heirs and successors, for the time being, that they, or any of them, do not, nor shall, at any time during the said term hereby granted, in anywise molest, trouble, or hinder, the said James Russell, his executors, administrators, or assigns, or any of them,

invention, in breach of the said new letters patent; that the defendants did make, use, and put in practice, a part

or his or their deputies, servants, or agents, in or about the due and lawful use or exercise of the aforesaid invention, or anything relating thereto.

“ Provided always: And these our letters patent are, and shall be, upon this condition, that if the said James Russell shall not secure to the said Cornelius Whitehouse, the said annuity of five hundred pounds sterling per annum, so long as these our letters patent shall last, or if at any time during the said term hereby granted, it shall be made appear to us, our heirs, or successors, or any six or more of our or their Privy Council, that this, our grant, is contrary to law, or prejudicial or inconvenient to our subjects in general, or that the said invention is not a new invention, as to the public use and exercise thereof in that said part of our United Kingdom of Great Britain and Ireland, called England, our Dominion of Wales, and Town of Berwick-upon-Tweed aforesaid, or not invented and found out by the said Cornelius Whitehouse, as aforesaid, then, upon signification or declaration thereof, to be made by us, our heirs, or successors, under our or their signet or privy seal, or by the lords and others of our or their Privy Council, or any six or more of them, under their hands, these, our letters patent, shall forthwith cease, determine, and be utterly void, to all intents and purposes, anything hereinbefore contained to the contrary thereof, in anywise, notwithstanding. Provided also: That these, our letters patent, or anything herein contained, shall not extend, or be construed to extend, to give privilege unto the said James Russell, his executors, administrators, or assigns, or any of them, to use or imitate any invention or work whatsoever, which hath heretofore been found out or invented by any other of our subjects whatsoever, except the said invention so found out by the said Cornelius Whitehouse as aforesaid, and publicly used or exercised in that said part of our United Kingdom of Great Britain and Ireland, called England, our Dominion of Wales, or Town of Berwick-upon-Tweed aforesaid, unto whom like letters patent or privileges have been already granted, for the sole use, exercise, and benefit thereof: It being our will and pleasure, that the said James Russell, his executors, administrators, and assigns, and all and every other person and persons to whom like letters patent or privileges have been already granted as aforesaid, shall distinctly use and practise their several inventions, by them invented and found out, except the said invention so found out by the said Cornelius Whitehouse, as aforesaid, according to the true intent and meaning of the same respective letters patent, and of these presents. Provided likewise nevertheless: And these our letters patent, are upon this express condition, that if, at any time hereafter, these our letters patent, or the liberties and privileges hereby by us granted, shall become vested in, or in trust for, more than the number of twelve persons, or their representatives, at any one time, as partners, dividing, or entitled to divide the benefit or profits obtained by reason of these our letters patent, (reckoning executors or administrators as and for the single person whom they represent, as to such interest as they are or shall be entitled to in right of such their testator or intestate). And also, if the said James Russell, his executors, administrators, or assigns, shall not supply, or cause to be supplied, for

of the said invention, in breach of the said letters patent; that the defendants did counterfeit, imitate, and resemble the said invention, in breach of the said new letters patent; that the defendants had made additions and subtractions from the said new letters patent, in breach of the said letters patent.

The defendants pleaded, that they were not guilty; that Cornelius Whitehouse was not the first and true inventor; that the invention was not, at the time when the first letters patent were granted, a new invention; that the invention was of no public use; that Cornelius Whitehouse's specification was obscure, uncertain, contradictory, and unintelligible; that the instrument in writing, called the specification, did not describe and ascertain the nature of the said invention; that the new letters patent were granted after the expiration of the said term of fourteen years, and not before the expiration of the said term; that the report of the Judicial Committee,

our service, all such articles of the said invention as he or they shall be required to supply by the officers or commissioners administering the department of our service, for the use of which the same shall be required in such manner, at such times, and at and upon such reasonable prices and terms as shall be settled for that purpose by the said officers or commissioners so requiring the same, that then these our letters patent, and all liberties and advantages whatsoever hereby granted, shall utterly cease, determine, and become void, anything hereinbefore contained to the contrary thereof, in anywise, notwithstanding.

"Provided, that nothing herein contained shall prevent the granting of licences in such manner, and for such considerations, as they may by law be granted: And lastly, we do by these presents, for us, our heirs and successors, grant unto the said James Russell, his executors, administrators, and assigns, that these, our letters patent, or the enrolment or exemplification thereof, shall be in and by all things good, firm, valid, sufficient, and effectual, in the law, according to the true intent and meaning thereof, and shall be taken, construed, and adjudged, in the most favourable and beneficial sense, for the best advantage of the said James Russell, his executors, administrators, and assigns, as well in all our Courts of record, as elsewhere, and by all and singular the officers and ministers whatsoever, of us, our heirs and successors, in that part of our said United Kingdom of Great Britain and Ireland, called England, our Dominion of Wales, and Town of Berwick-upon-Tweed aforesaid, and amongst all and every the subjects of us, our heirs and successors, whatsoever and wheresoever; notwithstanding the not full and certain describing of the nature or quality of the said invention, or of the materials thereto conducing and belonging. In witness whereof, we have caused these, our letters, to be made patent.

"Witness ourself, at our palace of Westminster, this twenty-sixth day of February, in the second year of our reign.

"EDMUNDS."

and the said letters patent, were procured by fraud, covin, and misrepresentation; that the said annuity of 500*l.* per annum had not been duly secured to the said Cornelius Whitehouse, from the making of the said new letters patent; that Cornelius Whitehouse did not assign the letters patent first mentioned; that the defendants committed the several grievances with leave and licence.

In addition to these pleas, the defendants gave notice of several objections on which they intended to rely at the trial of the cause; but as these notices of objection only follow the pleas, it is not necessary to introduce them here.

Mr. Attorney General (Pollock), Mr. Solicitor General (Follett), Mr. V. Richards, and Mr. Webster, were counsel for the plaintiff when the cause first came on for trial, but on the last day of trial, *Mr. Jervis, Mr. M. Smith, and Mr. Webster*, were for the plaintiff.

Mr. Kelly, Mr. Watson, and Mr. Addison, for the defendants.

The evidence on the part of the plaintiff consisted of putting in certain tubes, purchased of the defendants, in the interior of which were protuberances, which the witnesses for the plaintiff said could not be there if the tubes had been made or passed over a *bonâ fide* mandril, when being welded by the external pressure of rollers; in addition to which, there was the evidence of witnesses, who spoke to seeing the defendants' machinery worked without any mandril; and then there was the evidence of *Mr. William Carpmael and Mr. Cottam*, as to what they saw at the inspection of the defendants' premises, under the order of the Court of Chancery. These witnesses stated that they saw four sizes of tubes made by the defendants' machinery, which consisted of four grooved rollers, two being vertical, and two horizontal, so that, by their meeting together, they formed a hole through which the prepared tube, at a welding heat, was passed, so that the whole circumference of the tube was continually embraced as the rollers revolved, and passed the tube through between them, pressing the edges together so as to weld the joint. That the tube, in passing through between the rollers, passed over a stationary instrument, called a mandril; this instrument consisted of a rod with an enlarged head. The witnesses gave the dimensions of the hole formed between the rollers, the

thickness of metal of which the tube was made, and the diameter of the enlarged head of the instrument called the mandril; and they stated, that if the mandril was intended to give internal support, the tube and the mandril ought together to fill the hole between the rollers; but as shown to them, such was not the case; and in order to make this clear to the Court, they had prepared instruments showing the size of the hole formed by the rollers; also a short tube of the size made in each case, and a short, solid cylinder, of the size of the mandril used; which, being put together, showed in each case a considerable lunate space between the interior of the tube and the exterior of the mandril, and therefore the mandrils used would offer no interior resistance, and that the same did not act as mandrils. They stated that the dimensions of the parts were all agreed between them and Mr. Farey and Mr. Barnes, the inspectors appointed by the defendants, and the instruments produced were made from those dimensions. That the instruments showed the parts in the cold state, and although the metal would be expanded by the heat, there would still remain a considerable lunate space between the mandril and the interior of the tube, that there would be no internal support given to the tube when being welded; in fact, that the mandril took no part in performing the process of welding, and that the welding was performed by external pressure all round as the tube moved through between the rollers. That they had tried several plates of iron of the thickness used, which were from one-eighth to one-tenth of an inch thick, by proper gauges, and they found that, when at a welding heat, the thickness had been so little augmented, that the same notch in the gauge which fitted the metal when cold, would receive the metal when hot; the expansion, therefore, could not make up the difference of the opening through between the rollers and the mandril. That the expansion in the circumference of the tubes could readily be shown, particularly on the large tubes; and this could be seen by introducing a ring of the size of the hole on to the tubes when cold; the shrinkage could then be seen, and it was such, that the mandril used when welding would only just enter; but if a piece of tube were heated to a welding heat, then the mandril would pass without touching a large part of the interior circumference; and in respect to the smallest tubes

made at the inspection, notwithstanding the shrinkage, the mandril would still pass freely through the cold tubes, showing that the mandril played no part in making the weld. These witnesses gave it as their opinion, that in no instance of a tube made, during their inspection of the defendants' works, was a *bond fide* mandril used. The witnesses stated that the use of a mandril, in making gun-barrels before Whitehouse's patent, was totally different from that practised by the defendants; formerly, the mandril was the only means of keeping the metal open in the form of a tube. If no mandril were used in such a case, it would become a solid mass by passing through the grooved rollers. If the defendants' metal were passed through their rollers, leaving out what they called the mandril, a welded tube would be made, and the metal would not be rolled into a solid bar. The means practised by defendants for making welded tubes by external pressure was different from that formerly used in making gun-barrels, where external pressure was resorted to, with the internal use of a mandril, the edges of the metal overlapped, and the mandril was the only means of keeping the inside hollow. In the defendants' process, the edges of the metal butted against each other as in the plaintiff's invention, and such butting of the edges would alone support the metal, and prevent it falling in when being welded by the rollers. The plaintiff proved the assignment of the first letters patent, also the deed securing to Whitehouse £500 per annum during the continuance of the second letters patent. Proof was also given of the application to the Privy Council, of the report to her Majesty, and of her Majesty's approval of the report, and the date of the warrant for the new grant, in order to show that the terms of the statute 5 and 6 Will. IV. had been complied with.

Mr. Kelly addressed the jury for the defendants, contending that there was no infringement, a mandril being used. That the patent was void for want of novelty. That the second letters patent were granted after the first letters patent had expired. That the deed which had been put in did not show that £500 had been secured to Whitehouse, as directed by the second letters patent.

On the part of the defendants, the specification of James' and Jones' patent,* of Henry Osborn's patent, for "A New Method or Principle of producing Cylinders of Va-

* *Ante*, p. 551.

rious Descriptions," dated the 1st day of March, 1817;* also, the specification of James Russell, of the 19th day of January, 1824,† were put in and read.

[There were other specifications put in evidence, but as the case did not in any way turn on them, it is not necessary to introduce them here.]

Mr. Farey and Mr. Barnes, the inspectors appointed by

* The specification was as follows:—

"To all to whom these presents shall come, I, Henry Osborn, of Bordesley, near Birmingham, in the County of Warwick, Sword and Gun-barrel Maker, send greeting: Whereas his Most Excellent Majesty, King George the Third, by his letters patent, under the great seal of Great Britain and Ireland, bearing date at Westminster the first day of March, in the fifty-seventh year of his reign, did give and grant unto me, the said Henry Osborn, my executors, administrators, and assigns, his especial licence, full power, sole privilege, and authority, that I, the said Henry Osborn, my executors, administrators, and assigns, during the term of years therein expressed, should, and lawfully might, make, use, exercise, and vend, within England, Wales, and the town of Berwick-upon-Tweed, my invention of 'A New Method or Principle of producing Cylinders of Various Descriptions.' In which letters patent, there is contained a proviso, obliging me, the said Henry Osborn, under my hand and seal, to cause a particular description of the nature of my said invention, in what manner the same is to be performed, to be enrolled in His Majesty's High Court of Chancery within two calendar months next and immediately after the date of the said recited letters patent, as in and by the same relation being thereto had, may fully and at large appear. Now know ye, that I, the said Henry Osborn, in compliance with, and performance of the proviso contained in the said letters patent, do hereby declare, that my said invention doth, by this instrument in writing, under my hand and seal, particularly describe and ascertain the nature of my said invention, and manner in which the same is to be performed, as well, by a description in writing, as also by delineation of apparatus hereunto annexed, that will help to illustrate or exemplify my said principle; that is to say,—I take a piece of flat iron or steel, of any given length, breadth, or thickness, and having turned it, or formed it, into a cylinder by any of the usual, or by my patent processes, and prepared it for welding, I cause it to be placed in a furnace, or open fire, and being brought to a welding heat, I cause a mandril, *a, a*, made of iron or steel, or a mixture of iron and steel, of any given diameter, according to the calibre required (formed as described in the reference); and having placed said mandril in the cylinder, *n, n*, and taking care that the said mandril does not come further through said cylinder than is required to cause the desired pressure from the rolls, *a, a*, the shoulder or stop guard, *c, c*, on the mandril resting against the bar or fence, *r, r*, in front of the rolls. The prepared cylinder is suffered to enter the aperture in the rolls intended to perform the operation of welding, and it is instantly carried through by means of the rotative motion of the rolls; and as the mandril remains stationary, by means of the shoulder, *c, c*, resting against the fence, *r, r*, the whole of the interior of the cylinder is formed agreeable to the diameter of the said mandril, and the exterior

† *Ante*, p. 567.

the Court of Chancery on behalf of the defendants, and other witnesses, were called by the defendants' counsel.

Mr. Farey stated, that he was well acquainted with the various patents put in evidence, and with the means described of making welded tubes according to those patents. In the specification of Whitehouse's patent, no statement was made about drawing the tubes through a succession of dies. There was an essential difference between the process described in the plaintiff's patent, and that practised by the defendants under the patent of Mr. Prosser; the one acts by dies or pincers, with holes through them; the other acts by four rollers. In the defendants' works a mandril was used, the plaintiff could not use a mandril; the mandril, used by the defendants, was just sufficient to keep open the interior. In the defendants' process a tube was made, at once passing through between the rollers; the plaintiff draws the tubes several times through the dies to complete them. The rollers perform the process more quickly than the dies. The mandrils used when the works of the defendants were inspected were necessary to make the pipes. The mandrils would not go through the larger tubes, which were made at the inspection, after the tubes became cold. Made some tubes without the mandril by the same machine, to try the use of the mandril, and they were unsaleable. The thickest

is formed agreeable to the impression turned or cut in said rolls. Thus, if the cylinder is required to be of one given diameter from end to end, (be the length what it may,) the groove in the rolls is made accordingly. If, on the contrary, the cylinder, such as gun and pistol barrels, is required to be taper, then the diameter of the rolls must be regulated by the length of said barrel or cylinder, in order that when properly placed in the intended groove formed in said rolls, the compressure is such as produces the desired form, by being passed through the different apertures or grooves as may be found necessary, as I do not confine myself to any given number of grooves in my rolls, but take from one to four or more, as may be found necessary, and pass the taper, or other cylinder, through as many of them as may be required to produce the exact form wanted. Thus far I have only spoke of welding cylinders made of plain iron, but iron, called strings, being twisted, (as for gun-barrels, &c.) and brought to a welding heat, is treated the very same as the other. It is indispensable that this should be understood, in order that there may not be any ambiguity as to the true intent and meaning of what description of iron made into cylinders is to be operated upon. And as my patent is for a new method or principle, by which cylinders of all descriptions made of iron and steel may be welded, to that particular point I direct the attention of my readers.—In witness, &c.

"HENRY OSBORN."

part of the mandril was at the grip of the rollers. No tubes were made without the mandril in the ordinary working. In Whitehouse's patent a mandril could not be used. They make tubes according to that patent, which are saleable, without a mandril.

The mandril was used at each day of inspecting the defendants' works, for the small tubes as well as the large tubes. Iron will blister, after it has been pressed between rollers, and blisters will rise in the inside of tubes where a mandril has been used. The half-inch tubes were made of bad-iron, some of which was purchased by the plaintiff, because the defendants had none for that size of tube, and the viewers for the plaintiff required some to be made of that size. The iron for those tubes was too thin. In making tubes over a mandril blisters might rise after passing the mandril; it does not necessarily follow that, because a tube contains a projection, filling a considerable portion of the interior, that no mandril had been used, as a blister might have risen after passing over the mandril; the use of the mandril does not prevent blisters. In James' and Jones' patent there was circular pressure, but no movement of the tube when hammering, but there was movement of the tube when using the rollers to weld. In James' and Jones' process a mandril was used, all through the barrel; there was great difficulty in withdrawing it. In James Russell's patent the weld may be made with or without the mandril; it was so described. The same machine was used by James Russell's patent as was used by James and Jones, and by Osborn's patent; that machinery consisted of two-grooved rollers. In James Russell's patent the welding was performed by two tools, each having a half-round groove. The dies used under Whitehouse's patent are identical in structure to the tools described in James Russell's patent; they have however conical openings. All welding of tubes is by circular pressure. In using rollers to weld, they draw that part which is unwelded up to the pinch of the rollers, and they push the part which is beyond the pinch of the rollers. The rollers elongate the metal, so that the tube produced is longer than the skelp; the plaintiff's dies elongate the metal, by drawing it through the dies. There is no elongation after the pinch of the rollers, the elongation is in coming up to the pinch of the rollers. Took some dies away, which were formerly used by the defendants,

that was before the inspection ; they were not produced at the inspection—they were demanded, but refused to be produced by the defendants—there was a pair of such dies for each size of tube ; they were for scraping the tubes. The tubes were scraped at a low red heat. Those dies would not weld ; they were too abrupt at the edge ; had never tried to weld by them. (The witness measured the models made and produced by the plaintiff's witnesses, and stated some of them to be correct.) There is a space all round, between the mandril and the tube, of about one-fortieth of an inch, but the ring of metal which is intended to represent a portion of a tube is smooth, the iron from which a tube would be made would be rough and uneven. These circumstances would make a material difference. The half-inch tubes spoken of by the plaintiff's witnesses were made with the iron too thin. The mandril will pass through when cold. The half-inch pipes are marketable. The specimens of iron with blisters, produced by defendants, were artificial, not accidentally made, but made to show that blisters could rise after rolling. There were no tubes in Court, which had been made on mandrils, and which would show blisters, but such blisters might arise after passing the rollers and the mandril. In James Russell's patent the two tools were not kept closed, whilst a tube was drawn through them ; in Whitehouse's patent, the bell-mouthed dies were closed, and the tube drawn through them in a closed state, which produced the weld. The dies or hollow tools of James Russell's patent could not be used in that manner, because they were not bell-mouthed. James Russell's specification proposed to obtain the weld by hammering, by two half circles. It did not appear that such mode had ever been practised ; considered the leaving out of the mandril in James Russell's patent the same as that in Whitehouse's patent. The process of Whitehouse's patent was the same as the well-known process of wire-drawing. Prosser's patent, as practised by the defendants, was the same as the well-known process of rolling. These two processes are considered at all times different, and therefore the process of the defendants must be considered different from the patent of Whitehouse.

Mr Barnes and other witnesses gave similar evidence to that of Mr. Farey.

Mr. Palmer, the foreman of the defendants' works, was

called. He stated that the defendants at all times used a mandril, and described the mode pursued by them. On cross-examination, he stated that the defendants had received an order for a hundred tubes of a particular kind. That was, that they were to have a small diameter of bore, and made of strong iron plate. In that case they used no mandril.

Mr. Jervis.—The infringement is now proved. I will not cross-examine another witness upon the infringement.

Mr. Watson.—The important question is the general making. We shall call evidence to prove that the general mode of making was with a mandril.

Mr. Baron Alderson.—We are not discussing that.

Mr. Watson.—But it will be necessary, to show the Court of Equity that this was the only instance of making tubes without a mandril.

Mr. Baron Alderson.—The Court of Equity will determine that for itself. If the making without a mandril be an infringement, this is an infringement. It is now a mere question of damages, and that is for the Court of Equity.

Mr. Rotch.—Will your Lordship allow the witness Palmer to be re-called; he will show that the hundred tubes were not made in infringement of the patent? [The witness was re-called.]

Mr. Baron Alderson.—(To the witness)—Were those tubes passed through the rollers in the usual way without a mandril?

Witness.—They were.

Mr. Baron Alderson.—(To Mr. Rotch.)—Your case is two-fold. You say, that when you used the rollers you used the mandril, and if so, inasmuch as Mr. Jervis's client does not go for infringement by the use of the rollers and a mandril together—a *bonâ fide* mandril, then, if you have never made any tubes, except by means of the mandril and welding in that way, you will not have committed any infringement. Now, it appears, you have passed through the rollers one hundred tubes without a mandril—then *cadet questio*.

Mr. Watson.—It was a mere experiment.

Mr. Baron Alderson.—They were made for an order.

Mr. Rotch.—But they have not been sold.

Mr. Baron Alderson.—They have been used about your own premises.

Mr. Jervis.—It is just as much an infringement as if you had made five thousand.

Mr. Baron Alderson.—It will do quite as well.

Mr. Watson.—They are not sold, nor were they made for sale.

Mr. Jervis.—In *Muntz v. Forster*, it was held, that making without a sale was an infringement, that was held in the Common Pleas the other day; “make, use, exercise, and vend,” I think are the terms of the patent.

Mr. Baron Alderson.—There is no doubt this is an infringement.

Mr. Watson.—They were not made for sale.

Mr. Baron Alderson.—What the witness said, was, “I remember one hundred tubes being made, they were not sold. That was in 1840. They were made without a mandril, and were afterwards used in our manufactory.”

Mr. Watson.—For old iron.

Mr. Baron Alderson.—No, no. They were made for an order, but were not sold.

Mr. Rotch.—Surely, we have a right to make without a mandril, if we do not draw through the draw-bench.

Mr. Baron Alderson.—That is the point. I do not say your other defence is not a reasonable defence. I only say this puts an end to the infringement.

Mr. Watson.—It should be shown they were used as tubes.

Mr. Baron Alderson.—He said they were used in our manufactory. We will ask him. I have no doubt he will tell you, for he gives his evidence very fairly.

Witness.—They were used for making staples, nails, &c., not a bit was used as tubes.

Mr. Rotch.—The fact is they were not fit to be used as tubes.

Mr. Jervis.—They were made for an order. An order comes from the north, and they make one hundred tubes by the rollers without a mandril.

Mr. Baron Alderson.—(To the Witness.)—You say there was an order for some tubes to be made for a man in the north.

Witness.—Yes, my Lord. They were not well made.

Mr. Baron Alderson.—Why did you weld them?

Witness.—Merely that they might be useful for some purpose.

Mr. Baron Alderson.—What purpose would they be useful for by welding?

Witness.—They were easier for a man to use if he wanted to make a staple, or anything of a jobbing kind.

Mr. Jervis.—He sent them to Newcastle.

Mr. Baron Alderson.—Were they sent to Newcastle?

Witness.—They were sent out without any expectation of their being received.

Mr. Baron Alderson.—They were sent out to order and returned?

Witness.—Yes, my Lord.

Mr. Baron Alderson.—And afterwards you made use of them?

Witness.—Yes, they were used as I stated.

Mr. Baron Alderson.—Surely that is an infringement; that is to say, if this be a good patent, and if *Russell v. Cowley, Dixon, and others*,* be good law, which you are at liberty to question.

Mr. W. R. Palmer was next called and sworn.

Mr. Baron Alderson.—What is the object of this evidence?

Mr. Watson.—It only goes to show the ordinary mode of working.

Mr. Baron Alderson.—That would be very well, if *Mr. Jervis* was going for damages?

Mr. Jervis.—I am not going for damages; that is for the Court of Chancery.

Mr. Watson.—This is very important for the Court of Chancery.

Mr. Baron Alderson.—We had better leave the Court of Chancery to take care of itself. The Court of Chancery has not directed me to try the question of how many tubes were made.

Mr. Jervis.—The defendants, in an account, will be put on their oaths. The Master in Chancery will take the account.

Mr. Watson.—The question the Court of Chancery decreed to have decided was, whether, in point of fact, the defendants' is the same process as the plaintiffs'.

Mr. Baron Alderson.—It is the same substantially as their's. If their's be a good patent, and you make your's with a sham mandril, that is a violation of their's. On the other hand, if their's be a good patent on the grounds

* *Ante*, p. 532.

decided in *Russell v. Cowley, Dixon, and others*, it is not a violation if you use a real mandril.

Mr. Watson.—Then that is my case, my Lord.

Mr. Jervis shortly replied, by going through the pleas, and pointing out that all the questions, except the one that the invention was not new, would be, or had been disposed of by the Court; and the question really for the jury was, the novelty of the invention at the date of the first patent, and this depended on the specifications of James' and Jones,' of Osborn's, and of James Russell's previous patent. The case of *Russell v. Cowley, Dixon, and others*, settled the question, whether James' and Jones' patent was a previous publication of the same invention as that claimed by Whitehouse's patent. Then there was Osborn's patent; there again the mandril was used, consequently the law of *Russell v. Cowley, Dixon, and others*, settled the question, so far as Osborn's patent was concerned. Then there was the patent of James Russell, which the witness Hobbins had proved failed on the plaintiff, whose invention it was, attempting to put it into practice, and that induced him to take out a patent for the invention subsequently made by Whitehouse, who was then in his employ. The patent was for welding tubes by passing them, subject to circumferential pressure, through closed dies, without a mandril or internal support. The question for the jury was, whether James Russell's patent was circumferential pressure at all; the hollow tools, proposed by that patent, would not, when striking on the iron, in the manner of a hollow hammer, come together, unless the iron was only just so large as to be inclosed in the two half circles of the hollow tools, and then there would be no pressure. In Whitehouse's patent, the tube must be larger than the diameter of the hole through the dies, and then the tube, by being drawn down to a less diameter, was welded by the external pressure. In Whitehouse's patent, motion was absolutely necessary, when the tube was under pressure all round. In James Russell's plan no motion took place when the blow was given, when the tube, in Russell's case, was to be moved, in order to offer a fresh surface to the tools, the tools were open and offered no pressure whatever. In James Russell's patent no motion with circumferential pressure was to be found. The whole point of invention of Whitehouse's patent was motion,

when under pressure all round, so that the large diameter of the heated tube should be drawn down, by passing through the smaller diameter of the dies. By Russell's plan no elongation takes place; in Whitehouse's patent the process cannot be accomplished without elongating the tube in proportion as it was drawn from a larger to a smaller diameter. The patent was not for circumferential pressure alone, for that would be useless; the patent was for motion, accompanied with perfect circumferential pressure. In Russell's patent there is no such thing.

Mr. Baron Alderson then summed up the case to the jury as follows:—This case once came before the Court of Exchequer, in *Russell v. Cowley, Dixon, and others*, and the Court there was very anxious, as all Courts ought to be, if they can by any reasonable and fair means, to support useful and valuable inventions, and not to turn them aside lightly by any matter that is not the essence of the thing. In modern times the Courts have been more liberal than they were in ancient times, and I believe ours has been considered to be by far the wisest course of the two. Let us see what the Court, with some difficulty, extracted, as being what they considered the principle and the real merits of the invention of Whitehouse, whose invention we are now taking into consideration. The specification is this: He describes the mode of doing it, and he says, by heating it to the point of fusion, and passing the heated iron through a pair of dies or swages, the iron becomes united and a weld is performed, and the tube is drawn through in a welded state. Now it seems, the Court, having taken a good deal of pains to consider the matter, came to this conclusion—the notion which the Court of Exchequer had at the time when this case came before them, and when they supported the patent, was, that it claimed to make the pipes without beating or pressure upon any hard or internal surface; that is to say, claimed to make pipes by beating or pressure without an internal mandril, and nobody had made pipes without an internal mandril before, and if this was a specification for making without a mandril, then, so far as the case was before the Court, it was clearly a new and useful invention. The only evidence in that case was James' and Jones' specification, and when you come to look at the specification of James and Jones you find that James and Jones universally speak of a mandril being used in

*In modern times Courts
more liberal to patents
than formerly they were*

their invention : The Court of Exchequer say James' and Jones' patent is in some respects like yours, because you draw it through a die, and they pass it through rollers, and there is no practical difference ; but remember, they pass it through rollers and knock it with a hammer with a mandril inside, and you pass it through dies without a mandril inside, and that is the distinction between you. That was the decision, gentlemen, upon which *Russell v. Cowley, Dixon, and others*, depended, and that I apprehend to be the true construction of the patent. I am bound to act on that now, and you are bound to take the law from the Court of Exchequer, and are bound to take that as the reasonable construction. Now, in the present case, the defendants put in not only James' and Jones' patent, which claims the making of tubes with a mandril inside, but they put in the patent of James Russell, who took out a patent for welding by means of knocking with a circular hammer, the top being hollowed out into a groove, and the anvil being hollowed out into a similar groove, which together form the tube, the same thing in substance as pressure, and is equivalent to a roller with grooves. Then we have James Russell's for making with or without a mandril, and taken a year or a year and a half before Whitehouse's. Then, if that be so, and the Court of Exchequer are right in saying the real value of the invention of Whitehouse was for welding by circular pressure without a mandril, and if you think that, in point of fact, hammering, according to James Russell's patent, is circular pressure or circular impact, then there was an invention for welding a thing by circular impact taken out before the patent of Whitehouse, and therefore Whitehouse's patent was not new on the principle on which the Court of Exchequer sustained it ; namely, it being a mode, for the first time, of welding barrels and tubes without internal pressure arising from a mandril inside.

*Mechanical equivalent
may be used interchangeably
without affecting the nature
of invention: but a patent
mechanical difference
constitutes a new
invention -*

Now, if the patent of Whitehouse is for drawing it through a die, as distinguished from the mere hammering or passing it through rollers ; if advantage is derived from the circumstance that it is drawn from a fixed point by the draw bench, and so stretches the iron in that way and brings it through the die. If that is the real merit of the invention and the Court of Exchequer was wrong, then ask yourselves this question (which is a difficult question for the plaintiff to get over), How can you say that rollers

are an infringement of that? for if the principle depends on drawing, how do rollers draw? If it is the scrubbing of the tube on the edge of the die, is there any thing equivalent to that when they are passed through rollers, without a mandril inside? because we must now exclude the internal mandril. If we are to exclude that against the defendants for the purpose of making an infringement, we must exclude it for them by saying that when doing it without a mandril it is mere circular pressure. If it passes through rollers it is the motion, it is the tube going on with the roller itself, sticking to the point, and as the roller turns round, it moves it, because, as the roller turns round, it is not dragged from any portion of the roller at all, but it goes with the roller without any drawing at all, and, therefore, if the essence of the plaintiff's patent be for drawing, I must say I should recommend you to take very seriously into your consideration whether you should not find a verdict of not guilty for the defendants.

The jury retired for a short time, and then returned into Court, the foreman stating that they found for the plaintiff on all the issues.

RUSSELL v. LEDSAM AND OTHERS.

In the Court of Exchequer, Westminster, before Mr. Baron Parke, Mr. Baron Alderson, Mr. Baron Rolfe, and Mr. Baron Platt.—June 28, 1845.

IN this case *Mr. Kelly* obtained, on the 11th November, 1844, a rule to show cause why the verdict which had been found for the plaintiff at the trial should not be entered for the defendants on the seventh and ninth pleas; and why the judgment should not be arrested, if that course should become necessary. At the time of granting the rule, it was understood, that, should their Lordships be in favour of the defendants on those pleas, and on the want of novelty of the invention, *Mr. Jervis* was to be at liberty, for the plaintiff, to contend that those pleas were bad, and that the defendants were stopped from contesting the novelty of the invention, as the new grant of letters patent was not open to the objection of want of novelty in the invention, when the first letters

patent were granted. This rule came on for argument at a subsequent term, when

- *Mr. Jervis*, *Mr. Montague Smith*, and *Mr. Webster* appeared for the plaintiff, and *Mr. Kelly*, *Mr. Watson*, *Mr. Rotch*, and *Mr. Henderson* for the defendants.

Mr. Baron Parke now gave the judgment of the Court, as follows :—Several questions of importance arose and were discussed in this case, which was argued during the last term.

It was an action for an infringement of a patent in which the plaintiff had a verdict, subject to a question reserved by my brother *Alderson*, on the seventh and ninth pleas.

A motion for a new trial was also made on the ground that the verdict was against evidence, on the issues of the novelty, and on the infringement of the patent.

These two questions are of much importance, and were very fully and ably discussed. We have considered them, and are of opinion that the invention was new ; and we have also come to the conclusion that the defendants have been guilty of an infringement.

In order to decide whether the invention was new, it is first necessary to define what the nature of the invention was. In the case of *Russell v. Cowley, Dixon, and others*,* this Court had already decided that the principle of the invention was the welding of iron pipes in a state of welding heat without a mandril or internal support ; and with circumferential pressure ; and the absence of a mandril was sufficient to distinguish the plaintiff's patent from *James' and Jones'*, in which a mandril was used, whether the welding of the skelp, or incomplete pipe, was performed by hammers or by a pair of grooved rollers, both modes being made use of under that patent. On the trial of this cause, however, a patent granted in 1824 to *Mr. James Russell* was given in evidence by the defendants. This patent was for welding iron pipes in a similar state of heat, placed in a semi-cylindrical recess in an anvil, by means of a tilt hammer with a similar recess, and, by a succession of blows, the edges were beaten together, with or without a mandril. After this process the pipe was passed through rollers and met a cone-shaped mandril, over which the inside of the tube passed, and the inside was thereby rendered smooth and the outside was finished. This patent, it was contended, was for circumferential

* *Ante*, p. 532.

pressure and without a mandril, and, therefore, was the same in principle as the plaintiff's, and consequently the latter could not be supported. It appears to us, however, that the principle of the two inventions is not the same, for James Russell's does not operate by continuous, equal, circumferential pressure as the plaintiff's does, but by the repetition of violent contact of short duration; the impact by hollow grooves striking on each other does not become equal, continuous, circumferential pressure until the close of the operation. It does not cause an equal, continuous, circumferential pressure throughout the whole operation; and in effect, as was well observed by the learned Counsel for the plaintiff, James Russell's invention ends where the plaintiff's begins.

We think, therefore, that the jury have not come to a wrong conclusion on the question of the novelty of the invention.

But, then, it is said, that in order to carry the plaintiff's invention into effect, the drawing of the pipe through a fixed hole, and that of a conical or bell-mouthed form, is necessary; that it is an essential part of the plaintiff's patent, and that the defendant has not infringed it, for his apparatus does not move the pipe through a fixed hole, there is relative motion between the pipe and the roller, and it does not draw out or stretch the pipe.

It is on this part of the case that some of us have entertained more doubt than on the other, but, after much consideration, we do not see any reason to differ in opinion with the jury, and think that the defendant's mode, though it is an improvement in some respects on the plaintiff's patent, is in others the same, and is an infringement of it.

In order to carry Whitehouse's invention into effect, it is clear that the pipe must be moved through a fixed hole, it is not to remain stationary, or the operation of continuous circumferential pressure on the whole tube could not be performed. In the specification, the mode of accomplishing this is by instruments which draw, but the invention is expressly stated not to be confined to the employment of the precise apparatus described; but the principle is said to be to heat the tubes of iron, to pass them in a state of welding heat, through dies or holes, and to unite the edges together; in order to effect which the dies or holes are of a bell-mouthed shape, and thereby the joint becomes firmly welded, and this principle the de-

defendant seems to us to have infringed. In his mode of operating, the skelp or unfinished pipe is received into an irregular, conical, or bell-mouthed shaped space (not that in the guard, but one formed by the rollers), and passes along with the surface of the rollers to a hole formed by them at a point where their circumferences are in contact; and this hole is of fixed or definite size, and always in the same place, though its sides are moving, and are continually formed of a different material. Through this bell-shaped hole the pipe is passed, and the same sort of pressure in the orifice of the bell mouth, and the same sort of pinch at the narrowest part takes place as the plaintiff's bell-mouthed hole. In this respect it is the same as the plaintiff's patent; there is continual, equal, or circumferential pressure, without a mandril, but, in other respects, no doubt, there is a difference, and, on the whole, perhaps, an improvement; there may not perhaps be the same injury to the fibre of the iron as by the drawing process, which weakens and attenuates the tube, and the method of operating is more convenient than that by which the plaintiff carries his principle into effect. But if the process is, as we think it is, in a material part the same, the defendants have been guilty of an infringement. There ought, we therefore think, to be no new trial.

An invention which contains the material features of a former invention is to be considered as identical, though it is even altered, so long as it is in some respect a simple improvement on the same.

The next question arises on a point reserved at the trial on the evidence in support of the seventh plea. That plea was, that the second, or renewed letters patent, were granted after the expiration of the term of fourteen years, granted by the first letters patent; the replication took issue on that allegation, and the proof was, that the original letters patent were dated on the 26th day of February, 1825, the second on the 26th day of February, 1839, and the question is, whether the day of the date of the first letters patent was inclusive or exclusive. The usual course in recent times has been to construe the day exclusively whenever anything was to be done in a certain time after a given event or date; and, consequently, the time for enrolling a specification within the six months given by the proviso is reckoned exclusively of the day of the date,* and many other instances are collected in the cases of *Webb v. Fairmaner*, 3, Meeson and Welsby, 473, and *Young and Higgon*, 6, Meeson and Welsby, 49. But in this case the question is, when the term given by the

* *Watson v. Pears*, ante, p. 268.—W. C.

patent commences ; and the same rule would apply as to the commencement of a term, which, if it is to run from the date of the lease, includes the day of the date. It was asked by *Mr. Kelly*, whether, if there had been an imitation of the invention on the day the patent was dated, it would have been an infringement of it ; and we have no doubt that the answer ought to be, that it would ; and if so, the day of the date would be included, and the patent would expire at midnight on the 25th of February, 1839, for the law never takes notice of the fraction of a day, except where there are conflicting rights between subjects.

We are, therefore, of opinion that the verdict on the issue on the seventh plea must be entered for the defendant pursuant to the leave reserved.

The plaintiff then avails himself of the liberty given to move for judgment *non obstante veredicto* on this plea ; on the ground that under the 5th and 6th William IV. cap. 83, renewed letters patent are not void, if dated after expiration of the former term. And this question depends on the construction of that section which admits of some doubt.

The use of the terms "prolongation" and "extension" would seem to indicate one continuous term without an interval. On the other hand, the remainder of the clause appears not to require it. It enacts, that the judicial Committee may, on petition, consider and report that an extension should take place, and the King may grant new letters patent for a term not exceeding seven years after the expiration of the first term ; and then follows a proviso, that no such extension should be granted, that is, by the Crown, if the application by petition shall not be made and prosecuted with effect, before the expiration of the term. The "prosecuting with effect," which is to warrant the Crown to grant means, according to the ordinary construction of the sentence, a prosecuting with effect prior to, and independent of that grant, and not the grant itself, and that must be the obtaining the report of the Judicial Committee, or the approbation of it by the Crown ; and if so, there is no necessity for the new letters patent to be actually issued before the expiration of the old. It is said then, "may the Crown grant at any interval after the expiration of the term, so that the new term does not exceed seven years from the end of the old

one ; and what will be the condition of persons who make use of the invention, between the end of the old and the beginning of the new patent ?” It seems to us, that there is no limit except the discretion of the Crown, and it is to be presumed that the grant will not be made after a long interval, at least without protecting those who have invested their capital in order to use the invention, and such, if any, who have done so before the expiration of the first patent have always an opportunity of being heard in the Judicial Committee against the petition for an extension. With respect to those persons who use it in the interval, there is no doubt they are not responsible.

The conclusion to which we have come is, that the Legislature did not intend to restrict the Crown as to the actual date of the grant, if all the preliminaries were completed before the expiration of the term ; and therefore it appears to us that the seventh plea is bad. The defendant, in order to have availed himself of the proviso, should have pleaded, that the petition was not prosecuted with effect within the terms of the first patent ; and compliance with this condition, which is introduced in the form of a proviso, need not be averred by the plaintiff in his declaration, but the noncompliance should have been pleaded by the defendant.

The next question is, whether the issue raised by the traverse on the ninth plea, ought to be found for the plaintiff ; and we think it ought.

There is an allegation in the declaration, that Her Majesty granted the new letters patent to the plaintiff upon his securing to Cornelius Whitehouse, the original inventor, an annuity of 500*l.* so long as they should last ; and the declaration contains an averment, that from the making of the new letters patent hitherto, the annuity has been duly secured to Cornelius Whitehouse, according to the new letters patent. It appeared on the trial, that before the date of the new patent, namely, on the first of June, 1836, the plaintiff and Whitehouse, by indenture, had covenanted that Whitehouse should petition for new letters patent, and should assign them to the plaintiff ; that he should work in the manufacture of tubes for Russell and his partner, and serve them in their trade during the new term, and give them the benefit of all improvements that he might effect in the manufacture of tubes, according to the invention : and the plaintiff

thereby covenanted during the new term to pay 300*l.* per annum, and to allow Whitehouse to live rent-free in a house of his, with a proviso to deduct a sum, not mentioned, for every day he might be absent, or not work. Afterwards, on the seventeenth day of December, 1838, by another indenture, reciting the petition of the plaintiff for an extension of the patent, and that the petition had been heard before the Judicial Committee, and that an extension of the patent was expected to be granted, the plaintiff covenants to pay Whitehouse 500*l.* per annum instead of 300*l.*, and exonerates him from the obligation of working for and serving the plaintiff during the new term, or otherwise, and stipulates that the 500*l.* annuity should not be subject to deduction.

The defendant contended that this stipulation to secure the annuity of 500*l.* was a condition precedent to the granting of the new patent, and that the averment in the declaration that it was secured was not proved, for two reasons: first, because the grant of the annuity was not executed after the grant of the new letters patent, the condition requiring a future security; and secondly, because the new grant was not an absolute one, but was clogged with a covenant on the part of Whitehouse, contained in the deed of June, 1836, to give the benefit of future discoveries during the new term, and therefore was not to receive the annuity absolutely, which covenant was not released by the new deed, although the covenant to work and serve was.

We think that neither of these objections ought to prevail. As to the first, we think that the averment in the declaration, that the annuity was, at the date of the new letters patent, secured, is clearly proved, and the objection ought to be in arrest of judgment; that the declaration was insufficient, as it did not aver a security given for the first time subsequently to the date of the new patent. In that shape, however, we think the objection equally unavailing, because the meaning of the condition is, that there should be a security to Whitehouse for the annuity; and whether given before or after the letters patent is immaterial.

With respect to the second objection, we think that the covenant in the indenture of June, 1836, to give the benefit of any improvement, is only incidental to the working for the plaintiff in the manufacture of tubes

during the term, and is part of the service therein stipulated to be performed, and consequently is released by the second indenture; so that under the second indenture Whitehouse has the benefit of an absolute unconditional covenant to pay 500*l.* a-year. Besides, the second indenture, at all events, contains such a covenant: and this appears to be sufficient, though a part of the covenant is, in the first instance, obligatory on Whitehouse; especially as it must be taken on the evidence, that Whitehouse was satisfied with his security. The verdict, therefore, must stand for the plaintiff on the ninth issue.

The only remaining question is, whether the declaration is good on a motion in arrest of judgment? The defendant insists, that under the statute of 5th and 6th Wm. IV. chap. 83,* the new letters patent cannot be granted to the assignee of the original letters patent; and the objection, if it be one, appears on the record. This depends on the construction of the fourth section of the Act, which provides, that if any person who now hath, or shall hereafter obtain, letters patent as aforesaid, shall advertise, &c., and petition; the Crown may grant an extension of the patent. The words "as aforesaid" may mean, such patents as aforesaid, and refer to the previous description of the patent only; such as a patent for the sole making, &c., of a new invention; or they may mean to refer to the description of the title of the person obtaining the patent as grantee, assignee, or otherwise.

On the former supposition, the plaintiff would be entitled, because he has, at the time of passing of the Act, the letters patent. But it is urged, if this construction be adopted, the possessor, as assignee of a patent at the time of the Act passing, could obtain an extension, and the possessor, as assignee of a future patent, could not, which it is said is unreasonable, and therefore it is urged that the words should be slightly altered, and the enactment read as if it had provided that any one who had then obtained, or thereafter should obtain, letters patent, should be entitled to an extension; and this would be the proper construction, and necessary to make the enactment consistent if the first supposition is adopted, and the words "as aforesaid" are construed as meaning a patent for a new invention only; but if we act on the second supposition, and hold that these words mean to

* *Ante*, p. 17.

bring down by reference the words "as grantee, assignee, or otherwise," and these words mean to include the assignee of the patent, there is no occasion for any alteration of the sentence, the inconsistency is obviated, the possessors, by assignment of an existing and of a future patent, are both on the same footing, and both entitled to petition for a prolongation of the term; and this is a good reason for adopting a construction making the whole reasonable without an alteration of the language used. The ordinary sense of the word "obtaining," which alone would probably be taken to mean the original obtaining from the Crown, is, we think, explained by the context to mean, the becoming possessed of, either by original grant, by assignment, or by any other title, as executor, for example. We feel a difficulty in adopting the explanation of these words, "as assignee," given by some of the Judges in the case of *Spilsbury v. Clough*, 2, Gale and Davidson, p. 17, and 2, Queen's Bench Reports, p. 466, who suppose that they are meant to refer to an assignee of a foreign invention, who obtains a patent here; for the assignee is distinguished from the grantee, and one who obtains letters patent as assignee, as distinguished from grantee, must take by assignment the letters patent, not the invention. Besides, the importer, who is not necessarily the assignee of a foreign invention, and very seldom is, may have letters patent granted to him. The Act is certainly so penned as to leave the construction open to doubt, but our opinion is, that the power of renewal is not confined to grantees, but extends to assignees, and the Legislature may reasonably be supposed to have intended to compensate the assignee, as well as the patentee, for labour bestowed and capital expended without adequate remuneration, in bringing an useful invention to perfection, as they clearly have done by a subsequent statute. It is no doubt true that the Legislature have, by the statute of the 7th and 8th Victoria, c. 69, s. 4, expressly extended the benefit of having a renewed patent to an assignee, and expressly confirmed existing titles, with an exception which applies to the present case (section 7); but this leaves the present case as it stood before, and as this provision is not declaratory, it has no other effect than that of raising a surmise as to the opinion of the Legislature as to the construction of a clause; but the province of the Legislature is not to construe, but to enact,

and their opinion, not expressed in the form of law as a declaratory provision would be, is not binding on Courts, whose duty it is to expound the statutes they have enacted. A strong instance of this is found in the case of *Dore v. Gray*, 2, Term Reports, p. 358, which was referred to during the argument. This clause we consider to have been introduced for the sake of removing all doubt as to the title of an assignee to a renewed patent, leaving the question as to the title then in litigation exactly as it stood before.

Our opinion, therefore, is, that the judgment ought not to be arrested, and that upon the whole the plaintiff is entitled to succeed.

HAWORTH v. HARDCASTLE AND OTHERS.

In the Court of Common Pleas, before Mr. Justice Alderson and a Special Jury.—London Sittings after Michaelmas Term, 1833.

THIS was an action to try the validity of a patent, and to determine whether the defendants had committed any infringement of the rights granted. The patent was granted to William Southworth, on the 19th day of April, 1823, for "*Certain machinery, or apparatus, adapted to facilitate the operation of drying calicoes, muslins, linens, or other similar fabrics.*"*

* The specification was as follows:—

"To all to whom these presents shall come, &c.—Now know ye, that in compliance with the said proviso, I the said William Southworth do hereby declare the nature of my said invention by the following description thereof, reference being thereunto had, and the manner in which the same is to be performed and carried into effect by the drawings or plans which are hereunto annexed, and to the particular explanations thereof, reference being thereunto had: My invention consists in the application of certain machinery or apparatus adapted to perform the operation of *hanging* or suspending damp or wet calicoes, muslins, linens, or other similar fabrics (over a series of rails, or *staves*, situated in a stove or drying-house), for the purpose of drying the same; the said machinery being also adapted to perform the operation of taking down or removing the said calicoes, muslins, linens, or other fabrics (from off the said rails or staves), after they have been sufficiently dried; by means of which invention a considerable saving of labour and expense may be effected in the operation of drying. I construct the stove or drying-house in a manner nearly similar to those which are at present in use, and I arrange the rails or staves over which the cloth or fabric

Mr. Sergeant Wilde, Mr. Godson, and Mr. Tomlinson, for the plaintiff; and Sir James Scarlett, Mr. F. Pollock,

is intended to be hung or suspended, near to the upper part of the said stove or drying-house. I then construct a frame or carriage in such a manner as to be capable of moving freely upon guides or supports from one end of the drying-house to the other, the said carriage being situated immediately above the range of rails or staves, but so as not to bear upon them. This carriage is furnished with proper supports for receiving certain rollers or boxes upon the circumference of which rollers or boxes the wet cloth or fabric has been previously wound; the carriage is also furnished with certain cylinders or drums, which are caused to revolve in such a manner as to draw or wind the wet cloth or fabric from off the aforesaid rollers, or boxes, in a regular manner; thus, if the frame or carriage, with its appendages, be slowly moved along upon its guides above the rails or staves at the same time that the wet cloth or fabric is in the act of being drawn off the circumference of the rollers or boxes, by the operation of the revolving cylinders or drums before-mentioned, the wet cloth or fabric will descend in the vacancies between the rails or staves, and will hang down in loops or folds so as effectually to expose its surface to the action of the dry or heated air, and in order to suit the depth or height of the stove or drying-house. The depth or length of the said loops or folds may be regulated or determined by the length of cloth or fabric, which would be given out by the revolving cylinders or drawers during the passage of the frame or carriage from one stave to the next. When the cloth or fabric has been hanging a sufficient length of time to become dry, it may be taken up again, or drawn off the rails or staves and wound again upon the circumference of the rollers or boxes; this operation I perform by simply causing the frame or carriage with its appendages of rollers and cylinders, to traverse slowly along the drying-house, in the contrary direction to what it moved during the operation of hanging the cloth or fabric; at the same time that the cylinders or drums are caused to revolve in a suitable direction for taking or winding up the cloth or fabric upon the circumference of the rollers or boxes; by this means the dry cloth may be wound evenly upon the circumference of the rollers or boxes and removed from the machine. In some situations I find it advisable to vary the mode of arrangement, by causing the rails or staves over which the cloth or fabric is intended to be hung, to be connected together by chains or ropes somewhat in the manner of a rope-ladder, being connected by endless chains or ropes with a train of wheels, or other well-known machinery, so as to be moved slowly along upon guides, from one end of the stove or drying-house to the other. In this last-mentioned arrangement, the frame or carriage containing the revolving cylinders or drums for giving out and taking up the cloth, remain stationary at one part of the stove or drying-house; the operation of this machinery would be similar to the one before described with the traversing carriage, for if the cylinders or drums are caused to revolve, and to give out the cloth or fabric at the same time that the chain of rails or staves were moving slowly beneath the cylinder or drum, the cloth or fabric would descend between the staves, and hang down in loops or folds in a manner similar to the machine with the moving carriage.

Mr. Sergeant Stephen, Mr. Follett, and Mr. Cowling, for the defendants.

"In order to explain clearly the manner of carrying my invention into effect, and to enable persons conversant with works of a similar nature to put it in practice, I have hereunto annexed a plate. Fig. 1, represents an horizontal plan of the interior of a stove or drying-house supposed to be heated by steam, after the method usually adopted, being furnished by machinery or apparatus for the hanging and taking down of the cloth or fabric. Fig. 2, represents a longitudinal section of the same. Fig. 3, represents a transverse section of the stove and machinery; this stove is represented as furnished with two independent sets of machinery, so that one set may be employed in hanging one side of the stove, whilst the other is employed in taking down; or they may be employed to hang and take down both together, as circumstances may require.

"*Note*, The same characters or letters of reference are used to denote corresponding parts upon the figures whenever they occur.

"A, represents the exterior wall of the building; b, the steam-boiler for heating the stove; c, the range of steam-pipes situated near the lower part of the stove; d, represents the principal frames of the roof; and e, the ventilators or openings for the escape of the steam and vapours which arise from the cloth or fabric during the operation of drying. f, represents strong rails or guides which are firmly secured to the side walls, as seen in figs. 1, and 3; they extend nearly the whole length of the building, and form the guides for the small wheels at the outermost ends of the travelling carriages, g, g, to run upon. h, h, represent two strong timbers, which extend the entire length of the building, and lie in the masonry of the end walls; these timbers are placed at about twelve inches distant asunder, and are firmly supported throughout their length by vertical columns, i, which rise up from the ground. The timbers, h, h, are furnished with rails, or metal guides, upon their upper edges, upon which guides the small wheels at the innermost ends of the carriages, g, g, are adapted to run. k, represents the rails or staves over which the cloth or fabric is intended to be hung or suspended; these staves are placed parallel with each other, and at equal distances asunder, as seen in the plan, fig. 1; being supported, at each end, upon the rails, f, and the timbers, h, h.

"Fig. 5, upon the plate, represents a section of one of the travelling carriages, with its appendages, upon a larger scale, in order to explain the manner in which it is constructed; and fig. 6, represents a transverse section of part of the carriage, supposed to be divided in the length, in order to show the manner in which it is supported at both ends. The carriage is composed of three strong bars of metal, a, a, and l, which extend between the two frames, or standards, b, forming the sides of the carriage, and serving as supports for the various cylinders or drums; the carriage is mounted upon four small wheels, c, which are adapted to run upon the guide-rails hereinbefore mentioned. k, represents the staves over which the cloth, or fabric, is intended to be hung. n, represents one of the rollers, or boxes, upon which the cloth or fabric is first wound; the pivots, at one end of these rollers, are adapted to bear upon inclined planes formed upon the end frames, b, of the carriages, and the pivots, upon their other ends, are supported upon inclined planes, c, which are clamped fast to the cross-bar, l, as seen

Mr. Sergeant Wilde described, by the aid of models, the nature of the invention, to the Court and Jury, and, at the

in figs. 5 and 6. The inclined planes, *c*, are adapted to be secured at any part upon the cross-bar, *l*, for the purpose of supporting the pivots of the rollers or boxes of any required length. *r*, represents the main cylinder or drum; it is mounted upon an axis turning in stationary bearings, in the end frames, *b*, of the carriage. Beneath the cylinder or drum a lesser cylinder, *a*, is represented, the pivots of which are supported in bearings formed in the ends of two levers, *d*, moving on centre pins fixed to the end frame, at *e*; the other extremity of these levers have weights, *h*, suspended from them, which weights operate to press the circumference of the cylinder, *a*, into close contact with the circumference of the main cylinder or drum, *r*. The pivots of the rollers, or boxes, *n*, by resting upon the inclined planes, as before-mentioned, have a tendency to descend, and thereby keep the cloth or fabric which is wound upon their circumferences, always in contact with the circumferences of the main drum, *r*, so that, when the main drum is caused to revolve upon its axis, it will give motion to the rollers or boxes, *n*, and also to the cylinder, *a*; and if the end of the piece of cloth or fabric is conducted beneath the main drum, *r*, and passed through between the under surface of the said drum, and over the cylinder, *a*, the cloth or fabric would be wound off from the rollers or boxes, *n*, and would continue to descend in a right line between the spaces of the staves, *x*, as represented by the line, *k*, in fig. 5; but as the carriage with the whole of the drums and machinery is caused to advance or move along slowly upon its wheels, *a*, at the same time that the cloth or fabric is descending in the spaces between the staves, the cloth or fabric will be hung down in loops or folds, as represented at *k*, in fig. 2, sheet I; and in order to prevent the weight of the cloth or fabric from drawing the last-formed loop or fold over the staves, small cylindrical rollers, *n*, are applied, which turn upon pivots supported in brackets projecting from the cross-bar, *l*, of the frame, as seen in figs. 5 and 6; these rollers have liberty of rising and falling slightly in their bearings, so that when the carriage is moved along upon its guides, the rollers, *n*, come in contact with the upper edges of the staves, *x*; and by pressing the cloth or fabric against the said staves, they cause the loops or folds to descend in the space between the stave with which the rollers are in contact and the succeeding stave, and so on throughout the length of the stove. The upper edges of the staves are formed in angular shapes, and as the rollers, *n*, are only borne down by their own weight, they have liberty of rising up sufficiently to pass over the top edges of the staves. In some cases I do not permit the surface of the cloth or fabric which is wound upon the rollers or boxes, *n*, to bear against the circumference of the main drum during the operation of hanging the cloth or fabric; but I support the pivots of the said rollers or boxes against small projections which rise from the inclined planes, *c*, and simply cause the cloth or fabric to be drawn from off the rollers, or boxes, *n*, by the action of the main drum, *r*, and cylinder, *a*, between which the cloth or fabric is passed, and nipped tight by the operation of the weight, *h*, as before described; in this arrangement the cloth or fabric may be laid in plaits or flat folds upon a platform, and drawn off instead of being wound upon a roller. But in taking down or remov-

same time, the Learned Gentleman explained that, before the patent, in constructing houses or rooms for drying

ing the cloth or fabric after it has become dry, I always permit the rollers or boxes, *n*, to bear against the circumference of the main drum, in order to cause the cloth or fabric to wind regularly upon the circumference of the said rollers or boxes.

"I will now describe the manner in which the main drum, *r*, is caused to revolve upon its axis, at every part of its course along the stove or drying-house, and also the manner in which the advancing motion of the carriage, with its drums and cylinders, is effected: *m*, fig. 2, represents an horizontal shaft, which is supposed to be turned by a steam-engine, water-wheel, or other suitable moving power; this shaft has bevelled wheels, *n*, fixed upon it for giving motion to both the carriages; but as their motions take place independently, I will describe one of them only. One of the bevelled wheels, *n*, communicates motion to another bevelled wheel fixed upon the lower end of a small vertical shaft, *o*, upon the upper end of which a small horizontal bevelled wheel is fixed, engaging with the teeth of two equal bevelled wheels, *p* and *q*, which are fitted upon cylindrical parts of a small horizontal shaft; these wheels are engaged at the opposite diameters of the horizontal bevelled wheel, so that they are caused to revolve in contrary directions, and by means of a clutch or catch-box, which is situated between them, either of the said bevelled wheels may be locked fast to the shaft, or relieved at pleasure, and thereby cause the horizontal shaft to revolve in either direction, or to remain stationary, if desired, by sliding the clutch-box into the middle, so as to remain clear of both the wheels, *p* and *q*. *s*, represents a pulley, which is fixed fast upon the small horizontal shaft, round the circumference of which pulley a cord or rope, *r*, is supposed to pass. The uppermost part of this cord extends the entire length of the stove or drying-house, being supported or borne up by a number of small rollers, *t*, which are fixed to the framing of the roof; the cord, *r*, then passes over a pulley, *u*, which is mounted upon an axis supported by stationary brackets which project from the end wall of the building. From the under side of the pulley, *u*, the cord, *r*, returns, and after performing an entire turn round the pulley, *v*, upon the end of the main drum, *r*, it continues on to the pulley, *s*, and is united into an endless cord, or band, as represented in fig. 2; now if the pulley, *s*, be turned round so as to put the cord, *r*, in motion, it will cause the pulley, *v*, and main drum, *r*, to revolve uniformly at whatever part of the building the carriage with its drum might happen to be situated. The manner of effecting the advancing or traversing motion of the carriage along its guides, will be better seen from inspection of the figures 5 and 6. The main drum, *r*, has the large pulley, *v*, fixed upon its axis, and this pulley is either moved by an endless cord passing entirely round it, as before-mentioned, or it may be moved by an endless strap, *r*, passing under it, and over small guide-wheels, *s*, affixed to the carriage, as seen in fig. 5. The end of the main drum axis has a small pinion fixed upon it, which engages with the teeth of a large cog-wheel, *w*; this wheel is adapted to turn freely upon a fixed stud projecting from one of the end frames, *b*, of the carriage. The wheel, *w*, has a small pinion attached to it, which engages with the teeth of an intermediate wheel, *x*, which also turns

fabrics, at the upper part a series of bars, or, as they were called, staves, were placed, so as to form an open

upon a stud projecting from the end of the frame, *b*; this intermediate wheel engages with the teeth of the wheel, *r*, which is fixed upon the end of a small axis, *v*, extending across the carriage, and turning in collars, or bearings, attached thereto. The opposite extremity of the axis, *v*, has a cog or tooth-wheel, *y*, fixed upon it, corresponding in diameter with the wheel, *r*; the cogs or teeth of these two wheels are adapted to work into racks, *z*, formed along the upper side of the guide-rails, *r* and *u*. By this arrangement of wheelwork, when the pulley, *v*, and main drum, *r*, is set in motion by the cord or strap, it causes the wheels, *y* and *r*, to revolve slowly, and by their connexion with the teeth of the stationary racks, *z*, the carriage, with its appendages, is moved slowly upon its wheels, *a*, along the guides or supports. The relative proportion of these wheels and pinions will depend upon the depth of the stove or drying-house, and the diameter of the main drum, observing always that the circumference of the main drum should move through a space nearly equal to twice the depth of the stove or drying-house, during the passage of the carriage and drum from one stove to the next. The workman who attends the machine is supposed to accompany the carriage in its course along the guides, for which purpose he is to be provided with a small light carriage mounted upon four wheels, which are adapted to run upon the same guides as the machine carriage, and to be occasionally attached to the said carriage by hooks or latches, so that the workman may disengage his light carriage, and wheel it backwards and forwards upon the guides, in order to furnish rollers of cloth to the machine as fast as may be required; and to carry away the rollers of cloth after they have been dried, the carriage is furnished with a stage or platform, as seen at *g*, in figs. 1, 5, and 6, for the workman to stand upon in placing the rollers of cloth on the machine. It will be necessary to have a rod which communicates with the clutch-boxes upon the horizontal shaft, for reversing or suspending the motion of the machine, as represented at *x*, in the plan fig. 1; this rod should be continued from one end of the stove to the other, being supported by small jointed rods from the roof, in order that the workman may have the power of stopping or reversing the motion of the machine at any part of its course along the guides.

"Fig. 4, is supposed to represent a portion of the upper part of a stove or drying-house, to explain another manner of giving motion to the carriage; *a*, *a*, represent the carriage, which is supposed to move upon the rails, *r*, and timbers, *u*, *u*; *r*, represents the main drums, having pulleys, *v*, upon the end of their axis, for the purpose of giving motion to them by the endless cords, or straps, as hereinbefore described. The main drums are intended to have a portion of a screw or worm, formed at each end, which worms are adapted to work into worm-wheels, *w*, *w*, fixed upon the upper ends of small axes, which turn in collars or bearings, screwed in the end frames of the carriages; the lower end of these small axes have pinions, *x* and *y*, fixed upon them, which pinions engage with the teeth of a side rack formed out of the guide-rails for the carriage; by this arrangement the slow movement of the carriages may be effected in a very simple and convenient manner.

"I have now described fully one mode of carrying my invention into

floor, down between which the folds or loops of wet fabric were allowed to fall, and in this condition to hang to be dried, the successive folds or loops of cloth being kept up, and at the same time kept separate by the staves. The machinery and apparatus of the patent were so arranged as to travel over this open floor of staves, and, in moving along, to unwind a quantity of fabric, and allow it to descend between two staves, the quantity so unwound forming a loop or fold of a considerable length, depending on the height of the drying-houses, and in this manner the machine proceeded to unwind, at proper intervals, the requisite lengths of damp fabric, so as to hang the same on the series of staves, in a series of loops or folds; and then the machine was described as being capable of taking up the fabric, after it was dry, by simply reversing the direction of its action. The patentee, after a succession of misfortunes, became bankrupt, and his machinery was sold, in detached lots, by auction, and various persons bought the parts of the machinery. The

effect, and I do hereby declare, that I consider my claim of invention to extend to the application of the machinery or apparatus as hereinbefore described, for the purpose of facilitating the operation of drying calicoes, muslins, linens, or other similar fabrics, which machinery or apparatus is adapted to operate by means of a revolving or traversing cylinder or cylinders, situated over a series of stationary rails or staves arranged in a stove or drying-house in such a manner that the pieces of calico, muslins, linens, or other similar fabrics, may be previously wound upon the circumference of a roller or rollers, and then introduced into the machine, and by the revolving and traversing motion of the aforesaid cylinder or cylinders over the stationary rails or staves, or otherwise by the revolving motion of the cylinder or cylinders, and the traversing movement of the rails or staves themselves. The said calicoes, linens, muslins, or other similar fabrics, may be caused to descend in the spaces between the said rails or staves and hang down in long loops or folds in order to spread the pieces quickly and expose their surfaces, so as to facilitate the operation of drying the same. The said machinery or apparatus being also adapted to perform the operation of taking up or removing the said calicoes, muslins, linens, or other similar fabrics, from off the said rails or staves and winding them upon the circumference of a roller or rollers, so that they may be removed from the machine after being effectually dried; at the same time I must observe, that the form and proportion of the different parts may be varied according to the situation, or according to the discretion of the workman employed in constructing the same; the materials of which the same may be made may also be varied according to the circumstances of the case, without departing from the intent and object of my invention, as above described and set forth.—In witness whereof, &c.

“WILLIAM SOUTHWORTH.”

defendants became occupiers of the premises previously used by the patentee, and also purchased at the sale some of the machinery, such as the frames, cylinders, &c., which they put together, adding parts where requisite, and thus produced and worked with machinery, according to the patent, without any license from the patentee or his assignees. In thus putting up and using machinery, the defendants made various detail alterations, such as using a flap in place of the roller, to retain the fabric of one fold or loop from descending too low, by its own weight, till it was counterbalanced by another fold of equal length and weight. Secondly, giving motion to the cylinder which contained the fabric, by a screw in place of a cog-wheel; this, unquestionably was an improvement, when working the machine by hand, as it retained the cylinder from turning, by the weight of fabric, unless the screw itself was put in motion. Thirdly, the giving motion, by hand, to the machine, in place of by power. Fourthly, the stopping and adjusting the machinery by hand, in place of by power. Fifthly, applying the driving power to a different axis. Sixthly, the using of a bag of shot, as a weight, in place of the means described. These, it was contended, were simply alterations in the details; the principle of the machinery, whereby successive quantities were deposited on the successive staves, by machinery, in place of hand-labour, remained the same.

Many witnesses were called by the plaintiff, to shew the novelty and utility of the invention, and that the specification was sufficient to enable a workman to carry out the invention; some of them stating, that the machinery, under some circumstances, was not useful for taking up the fabrics after they were dried: but that the machinery was highly useful for hanging out to dry, and also in many cases for taking up the fabrics, after they were dried.

Sir James Scarlett addressed the Court and Jury for the defendants; and stated, that the circumstances of the defendants having purchased the patented machinery, was, of itself, an answer to the case. The machinery was put up by the patentee, he failed, and his machinery was sold; any person purchasing such machinery was entitled to use the invention.

The Learned Judge intimated, that that did not follow, unless it was so understood, at the sale. The right of using the invention must be by license.

Sir James Scarlett then continued to address the Jury, urging, that the invention had failed to produce the two results described in the specification. The invention, as described, was incomplete in various details. The roller, for retaining the fabric on the rails, when one fold had been dropped down, was insufficient whenever the rails or staves warped, or were untrue. The patent could not be worked by the public, to any useful extent, in the form specified. The machinery only became valuable, by the alterations made by the defendants, and it would be an obstruction to the progress of genius, if this patent were to be supported.

Several witnesses were called, who explained the objections to the machinery before it was improved by the various alterations; and they entered into particulars of the failure, under many circumstances, of the machinery to take up fabrics, after they were dried. Other witnesses spoke of other machines used in Scotland, and also in England, which had some similarities to the patented machinery. In cross-examining the plaintiff's witnesses, and in examining the defendants' witnesses, it was attempted to be proved, that similar machines had been used in Scotland before the date of the patent.

The Learned Judge stated, the use of the machinery in Scotland before the patent, could not invalidate the English patent.*

Mr. Sergeant Wilde then replied.

Mr. Justice Alderson summed up the case to the Jury: in doing so, he read over much of the evidence, and concluded as follows:—Gentlemen, I do not think I can assist you further; you must be satisfied that the invention of the present patentee is new—that is, was not practised by any other person in England, before this patent. You will then find your verdict for the plaintiff. You will consider whether the combination of machinery, as specified, is useful—for this purpose consider, upon the whole, whether, previous to the existence of this patent, the public had as great a benefit as they had after this patent was taken out. You will take into consideration the imperfections which

*Test of utility
of an invention*

* This was very generally considered to be the state of the law, until the decision of the House of Lords, on the 25th February, 1842, in *Brown v. Annandale*, *Post*, in which case it was held that the public use, in England, of machinery, before the date of a Scotch patent, rendered the Scotch patent bad in law.—W. C.

have been pointed out; but, if you think it was still a useful invention, you will find for the plaintiff. You will also consider whether the plaintiff has properly specified all the invention, and whether the public could make the machine from this specification; if so, you will say that this is a good specification; and then take into your consideration whether the defendants, by the machines produced, have infringed this patent; if you find that they have, you will find your verdict for the plaintiff.

The Foreman of the Jury.—Suppose we find it was not useful in a proper way for taking up.

Mr. Justice Alderson.—I should be glad to have the fact found, and, if you find specially, I shall thank you to tell me. My purpose is to have it found generally, and I will reserve the point.

Mr. Sergeant Stephen.—With respect to whether the staves or racks are claimed as part of the patent, and which we have called No. 1, I think it is a question of law.

Mr. Justice Alderson.—So I think; but we had better discuss it now.

The Jury, having consulted for a short time, returned a verdict for the plaintiff,

The Foreman of the Jury stating—We find that it is a new combination, and a useful invention, but not adapted to take up—not useful for taking up in some cases.

Mr. Justice Alderson.—Then I should recommend you, Gentlemen, to find a verdict for the plaintiff.

The Foreman of the Jury.—Yes, my Lord, we do; but we do not think it useful for taking up, in some cases.

Mr. Justice Alderson.—Then you find it to be new and useful—upon the whole, sufficient for a mechanic to make by, and that there has been an infringement; but you find that it is not useful in some cases for taking up the cloth?

Foreman.—Yes, my Lord.

Mr. Justice Alderson, to the defendants' Counsel.—Then you are at liberty to move: if the Court of Common Pleas are of opinion that the true effect of the specification is to claim the staves, then you are at liberty to enter a nonsuit.

HAWORTH v. HARDCASTLE AND OTHERS.

In the Common Pleas, before the Lord Chief Justice Tindal, Mr. Justice Parke, Mr. Justice Vaughan, Mr. Justice Gaselee, and Mr. Justice Alderson.—Easter Term, 1834.

IN this case the trial was had before *Mr. Justice Alderson* and a Special Jury, at the London sittings, after Michaelmas Term, when a verdict was entered for the plaintiff on a special finding by the Jury, and leave was reserved to the defendants to move for a nonsuit, should the Court be of opinion that the specification claimed the staves, or racks. In the following term, *Mr. Sergeant Stephen* obtained a rule *nisi* on the point reserved at the trial, and because the finding of the Jury in effect negatived the usefulness of the invention. A second rule *nisi* was also obtained by *Mr. Sergeant Stephen*, on an affidavit stating that proceedings by *scire facias* had been instituted by the defendants to try the validity of the patent; against this rule cause was shown by *Mr. Sergeant Wilde*, and the second rule was dismissed.*

Mr. Sergeant Wilde and *Mr. Sergeant Coleridge* now showed cause against the first rule. They urged on the Court, that the specification clearly claimed a combination of machinery to facilitate the drying of fabrics, the circumstances of the specification going on to say, that the

* The following was the judgment of the Court on this rule:—

Lord Chief Justice Tindal.—In the exercise of our discretion, I think we ought not to make this rule absolute. The patent was granted in 1823. The party, who professes now to be actuated by a desire for the public good, has lain by ten years since the patent was granted, and two years since this action was commenced, by order of the Court of Chancery; and it is only at the last moment, when a rule has been granted for a new trial, that he comes forward. But justice cannot be done to the parties in the action, unless the rule for a new trial be heard through. The present rule, therefore, must be discharged.

Mr. Justice Park.—No ground has been laid for the interposition of the Court. The *scire facias* has not even been served, and the discussion of the rule for a new trial has been postponed for the accommodation of the bar. As for the possibility of the judgment on the *scire facias* being inconsistent with the judgment in this cause, we cannot, on that contingency, delay the rights of the parties to this cause.

Mr. Justice Gaselee.—The patent may expire, if this rule for a new trial be postponed till after the trial of the *scire facias*.

Mr. Justice Vaughan concurred.

Rule discharged.

same machinery was capable of taking up the fabric after it was dried could not render the patent void. The machinery was not only useful for facilitating the drying of fabrics, but in some, though not in all cases, it was useful for taking up the fabrics when dry. The finding of the Jury did not negative the general utility of the patent; on the contrary, it supported the utility generally for the only purpose for which the patent was taken; and further, for some purposes the same machinery was also applicable to take up dry fabrics, which was an additional utility to what was required by the title of the patent. The Learned Gentlemen also contended that the specification spoke of the staves or racks as being old, and therefore separately they were not claimed under the patent.

Mr. Sergeant Stephen, in reply, urged that the patent was bad; it was taken out for machinery, whereas it turned out by the specification to be for the application only of old machinery, and that the specification did not so separate the staves as to enable any person reading that document to understand that it would be no infringement of the patent if the staves shown and described were alone used.

Lord Chief Justice Tindal.—The motion for entering a nonsuit was grounded on two points: First, That the Jury had, by their special finding, negatived the usefulness of the invention to the full extent of what the patent and specification had held out to the public. Secondly, That the patentee had claimed, in his specification, the invention of the rails, or staves, over which the cloths were hung, or, at all events, the placing them in a tier at the upper part of the drying-room.

As to the finding of the Jury, it was in these words:—
“The Jury find the invention is new and useful—upon the whole sufficient for a mechanic to make by, and that there has been an infringement; but they also find that it is not useful, in some cases, for taking up the cloth.”

The specification must be admitted, as it appears to us, to describe the invention to be adapted to perform the operation of removing the calicoes and other cloths from off the rails or staves after they have been sufficiently dried. But we think we are not warranted in drawing so strict a conclusion from this finding of the Jury, as to

hold that they have intended to negative, or that they have thereby negated that the machine was not useful, in the generality of the cases which occur for that purpose. After stating that the machine was useful on the whole, the expression that, in some cases it is not useful to take up the cloths, appears to us to lead rather to the inference, that in the generality of cases it is found useful. And if the Jury think it useful in the general, because some cases occur in which it does not answer, we think it would be much too strong a conclusion to hold the patent void. How many cases occur, what proportion they bear to those in which the machine is useful, whether the instances in which it is found not to answer are to be referred to the species of cloths which are hung-out, to the mode of dressing the cloths, to the thickness of them, or to any other cause distinct and different from the defective structure, or want of power in the machine, this finding of the Jury gives us no information whatever. Upon such a finding, therefore, in a case where the Jury have given their general verdict for the plaintiff, we think that we should act with great hazard and precipitation if we were to hold that the plaintiff ought to be nonsuited, upon the ground that his machine was altogether useless for one of the purposes described in his specification.

As to the second ground upon which the motion for a nonsuit proceeded, we think, upon the fair construction of the specification itself, the patentee does not claim as part of his invention either the rails or staves over which the calicoes and other cloths are to be hung, or the placing them at the upper part of the building.

The use of rails and staves for this purpose was proved to have been so general before the granting of this patent, that it would be almost impossible *a priori*, to suppose that the patentee intended to claim what he could not but know would have avoided his patent; and the express statement that he makes is, that he "constructs the stove or drying-house in a manner nearly similar to those which are at present in use, and arranges the rails or staves over which the cloth or fabric is intended to be hung or suspended near to the upper part of the said stove or drying-house," shews clearly that he is speaking of those rails or staves as of things then known and in common use, for he begins with describing the drying-house as nearly similar to those in common use; he gives no di-

*Construction of Spec
not to be forced
with a view of
making it to extend
its claim beyond
what appears from
the facts of the case*

mensions of the rails or staves; no exact position of them, nor any particular description by reference, as he invariably does when he comes to that part of the machinery which is peculiarly his own invention. There can be no rule of law which requires the Court to make any forced construction of the specification so as to extend the claim of the patentee to a wider range than the facts would warrant; on the contrary, such construction ought to be made as will, consistently with the fair import of the language used, make the claim of invention co-extensive with the new discovery of the grantee of the patent. And we see no reason to believe that he intended under this specification to claim either the staves, or the position of the staves, as to their height in the drying-house, as a part of his own invention.

As to that part of the rule which relates to the granting of a new trial on the ground of the former verdict being against evidence, this case comes before us under such peculiar circumstances, that unless we were thoroughly satisfied that the verdict was wrong, we hold that we ought not to interfere. The trial took place before a special Jury; it occupied two days of close and laborious investigation; the questions whether the invention was new, and whether there was any infringement, were specifically and pointedly left to the Jury; the Jury found their verdict for the plaintiff, which verdict, we are authorized to say, was entirely to the satisfaction of the Learned Judge who presided at the trial. These circumstances alone would be sufficient in ordinary cases to induce the Court to refuse to interfere; but, in addition to these strong grounds for the course we take on this occasion, it should be observed that this is the case of a patent granted in the year 1823, having therefore now only three years longer to remain in force; and further, the defendants or some other persons have, since this action has been tried, procured a *scire facias* to be filed to avoid the patent. As this is a mode of trial in which the precise objections to the patent may be raised by the pleadings, and the questions made on the former trial may be carried by writ of error to a higher tribunal, we do not feel ourselves called upon, unless upon a much stronger case than the present, to take away from the plaintiff the benefit of the verdict which the Jury have given him. If this further proceeding by *scire facias* had not been instituted, and now

pending, we might have felt ourselves called upon to discuss and consider one objection advanced by the Learned Counsel for the defendants, namely, that the patent is taken out for machinery, whereas the specification is made for the application of machinery, or for a method only. But as this objection, as well as the others, can receive a more solemn decision upon the occasion to which we have adverted, we shall offer no opinion on it now, which we think we are the less called upon to do, on this occasion, as it was not an objection taken upon the trial of the cause before the Jury, but for the first time raised when the defendants were heard in support of their rule.*

Rule discharged.

JONES v. RIPLEY AND ANOTHER.

In the Court of King's Bench, Westminster, before Lord Chief Justice Denman and a Special Jury.—June 21, 1834.

THIS was an action for the infringement of a patent granted to the plaintiff on the 27th day of January, 1824.†

* The proprietors of these letters patent applied by petition to Her Majesty for an extension of the period for which they were originally granted, setting forth the loss of time in the patent which had been suffered by the unavoidable misfortunes of the patentee, and the legal expenses and anxiety to which the assignees had been put in defending the patent against infringement. Her Majesty, under the advice of the Privy Council, granted fresh letters patent, dated at Westminster, the 18th day of April, 1837, extending the term five years.—W. C.

† The specification was in the following words:—

“To all to whom these presents shall come.—I, John Jones, of Leeds, in the County of York (late of Gloucester), Brush Manufacturer, send greeting. Whereas, his Most Excellent Majesty, King George the Fourth, did, by his letters patent, under the Great Seal of that part of the United Kingdom, Britain and Ireland, called England, bearing date at Westminster the twenty-seventh day of January, one thousand eight hundred and twenty-four, in the fourth year of his reign, give and grant unto me, the said John Jones, my executors, administrators, and assigns, his special licence, full power, sole privilege, and authority, that I, the said John Jones, my executors, administrators, and assigns, during the term of years therein mentioned, should, and lawfully might, make, use, exercise, and vend, within England, Wales, and the town of Berwick-upon-Tweed, my invention of “Certain improvements in machinery and instruments for dressing and cleansing

Sir James Scarlett, Mr. Cresswell, and Mr. Rotch,
were for the plaintiff.

Mr. F. Pollock and Mr. Milner for the defendants.

Sir J. Scarlett stated the plaintiff's case. He claimed

woollen, cotton, linen, silk, and other cloths or fabrics, and which improvements are also applicable to the dressing and cleansing of machinery of various descriptions, and other articles or substances." In which said letters patent there is contained a proviso, that, if I, the said John Jones, shall not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed by an instrument in writing, under my hand and seal, and cause the same to be enrolled in His Majesty's High Court of Chancery within six calendar months next, and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever, thereby granted, shall utterly cease, determine, and become void, as in and by the same relation being thereunto had, will more fully and at large appear.—Now know ye, that in compliance with the said proviso, I the said John Jones do hereby declare the nature of my said invention, and the manner in which I perform the same, by the following description thereof, reference being had to the drawings and figures annexed: My improvements consist,—

"First. In machinery used in dressing or brushing and cleansing woollen and other cloths; in the modification of a perpetual brushing machine, as represented in perspective by fig. 1. A, A, is the frame; B, the first or front cylinder-brush, composed of bristles, or bristles and wires intermixed; C, another cylinder-brush of bristles, or bristles and wires intermixed, or of goat's hair, or goat's hair and bristles intermixed; D, D, are drawing rollers or cylinders; E, a cog-wheel, upon the further end of the axle of which is fixed a pinion, working into the teeth of a wheel fixed on the axis of the lower drawing-roller, D; F, works into the teeth of a pinion fixed on the axis of the cylinder-brush, C; G, is a wheel working into the teeth of pinions fixed on the axis of B and C, and is fixed on the main or driving-axle, G; H, is a box attached to the frame, and placed underneath the cylinder-brushes to receive flocks or dust which may fall from the cloth during the process of brushing; I, is a roller for giving a greater or less pressure to the cloth; J, K, are retarding cylinders; L, is a lever in which the pivot of the roller, D, works for the purpose of raising the upper roller, D, to introduce the cloth between the rollers, D, D. The cloth to be brushed will first pass over the roller, J, between J and K, under K, over B, under I, over C, and under the lower roller, D, between the two rollers, D, D, and over the top of the upper roller, D, it will fall upon M, an inclined plane or curved surface, which is elevated at the receiving end sufficiently for the cloth to move slowly downwards, and the lower end will rest upon the floor immediately under the front of the machine; the ends of the cloth to be sewed together or secured with wire skewers. N, is a cylinder or fan-formed whisk, and is placed over B, to cleanse the back or wrong side of the cloth whilst it is being brushed on the face side of the same; a cylinder brush may also be placed in the room of the whisk for the same purpose, or in the room of the roller, I, to brush cloth, having a dress upon both sides. Steam can be applied to woollen cloths, by this machine, in the usual manner,

to be the inventor of a machine for brushing cloth by a variety of processes. The cloth having been woven, cleansed, and scoured, the application of the plaintiff's invention begins. The cloth, after scouring, is submitted to the operation called burling,—picking out, by the

the apparatus for which it is not needful to describe, nor is it shown in the drawings. This machine may be applied to wet brushing of cloths, and it is applicable for brushing and cleansing woollen cloths in the raw state, or previous to, and during the process of *burling*; it may be proper for this purpose, that the pinions on the axles of the brush-cylinders, *b* and *c*, should work into each other, and the wheel, *r*, made to work into one of these pinions, in which case the cylinders, *b* and *c*, will move in reverse directions. My improvements consist,

Secondly, in the modification of a wet perpetual brushing or moizing machine, as shown in fig. 2. *A*, is the frame; *b*, the cylinder-brush, composed of bristles, or bristles and wires intermixed. *d*, *d*, are drawing rollers; *e*, a cog-wheel, and on the further end of the axle, *e*, is fixed a pinion, working into the teeth of the wheel, *c*, which is fixed on the axis of the upper roller, *d*. *f*, is a wheel working into the teeth of the pinion, *h*, and fixed upon the axis of the brush-cylinder, *b*. *f*, is fixed upon the main or driving axle, *g*; *e*, works into a pinion fixed on the axle, *g*. *j*, *k*, *l*, are rails between which the cloth is to pass, these are moveable in grooves of the frame, and are made to rise and fall by means of pinions working into the rack-teeth on the projecting arms of the frame. *m*, is a pipe pierced with small holes to convey water to the cloth when working. The cloth will first pass between the rails, *j*, *k*, *l*, over *b*, over the top roller, *d*, and between *d*, *d*; the two ends of the cloth to be sewed together if to pass more than once through the machine, and to work as described in fig. 1. This machine may also be used for dry brushing and steaming woollen and other cloths. I claim as my invention:—

“First. The construction and application of cylindrical brushes, in which the bristles, or bristles and wires intermixed, are set, or drawn at obtuse angles from the radius, for the brushing, moizing, or cleansing woollen and other fabrics, and other articles.

“Secondly. The cleansing of the back or wrong side of the cloth, either by cylindrical or fan-formed whisks or brushes, at the same time as the face side is brushed or cleansed.

“Thirdly. The method of bringing the cloth underneath the machine by means of an inclined plane or curved surface, to prevent the necessity of turning over the cloth by hand during the process of brushing perpetually.

“Fourthly. The application of brush-cylinders, working in reverse directions against cloths, more particularly to expedite the process of burling woollen cloths.

“Fifthly. The application of brushes with wires and bristles intermixed, for the purpose of cleansing cotton, silk, and various kinds of machinery.

“In witness whereof, I the said John Jones, have hereunto set my hand and seal this twenty-second day of July, in the year of our Lord one thousand eight hundred and twenty-four.

“JOHN JONES.”

hand, the parts that are lumpy. Before the plaintiff's invention that was performed in this way: the cloth was laid on a large table, and persons, by the hand, brushed first one way and then the other, in order to raise the pile, to discover where the uneven parts were, which were then removed by a sort of tweezers. The first operation of the plaintiff's machine takes the place of that manual labour, and brushes the cloth more fully and speedily; the picking out remaining the same. The next process is the fulling, where the cloth is reduced in width in proportion as 12 to 7. It is then carried to the gig-mill, formerly fitted up with teasels, for the purpose of raising the pile and breaking the slender fibres that lie on the surface of the cloth. Then follows the shearing, during which operation it undergoes several brushings; then it is pressed, and, finally, again brushed. Cloth is brushed at several stages of the manufacture, and much oftener since the plaintiff's invention.

The piece of cloth being of great length there is a difficulty in taking up one end, and to carry it smoothly and correctly to brush it, without any application of the hand to it. For this purpose the Yorkshire machine was carried to great perfection. Brushes were applied to a roller, and over that the cloth was thrown; the cloth then passed through a frame, which was made to swag backwards and forwards, for the purpose of throwing the cloth down in folds. The cloth was then to be taken up to be carried above the rollers, by the hand, and in moving it it required to be turned upside down, that the proper end might be presented: that required the labour of two persons. The plaintiff, instead of the swagging-instrument, uses an inclined plane, on which the cloth descends, and, by its weight, comes down with the proper end to be taken up by the other machine.

The patent is for an invention of "certain improvements in machinery and instruments for dressing and cleansing woollen, cotton, linen, silk, and other cloths or fabrics, and which improvements are also applicable to the dressing and cleansing of machinery of various descriptions, and other articles or substances." From the specification, it appears, the plaintiff has thrown together various things, the combination of which he claims as an invention of a new machine of great utility. (The Learned Counsel then, by means of drawings and models, described the

construction and manner of operation of the plaintiff's machine.) The old machine occupied an area of 100 square feet, was as high as the ceiling, and required large premises. The plaintiff's machine need hardly be larger than the model produced in Court, and several might be in one room. The brushes instead of being perpendicular, are placed at obtuse angles, and, therefore, when brushing, yield gently to the cloth: by this means wires were capable of being intermixed with the bristles. The machine also whisked the cloth without the use of the hand; and the back of the cloth was also brushed by the same operation: the brush is also employed to clean the machinery itself.

The plaintiff sold some thousands of these machines, besides which, having licensed many persons to improve their own machinery with his invention. The defendant (who, as well as the plaintiff, resides at Leeds) purchased one of these brushing-machines, with which they were so well pleased as to order a burling-machine, and sent persons, during its progress, to take the dimensions of it, but did not ultimately have it. Two years after this, the plaintiff discovered that the defendant had made a burling-machine from the dimensions then taken, and had also applied to their own machine the plaintiff's inclined plane. For this infringement the action was brought.

William Davis, a machine-maker, on being called, explained the construction of the West of England and Yorkshire machines, of which models were in Court; and then described the mode of operation as performed by the plaintiff's machine, of which a model was also produced. He stated that he had made a great number of them himself, and that they were very generally in use in the clothing districts; that it caused a great saving in manual labour, and that the process was performed in a much superior manner.

On cross-examination by *Mr. F. Pollock*, he said that, in the specification, no dimensions were given; he thought it unnecessary, the thing being so well understood. All cloth was not the same width, varying from 78 inches to 12 feet. The brushes to the plaintiff's machine were made with bristles, or bristles and wires intermixed; the manufacturers generally order, themselves, the kind of brush they wish to have; witness had a machine for brushing cotton with brushes made of wires and bristles

intermixed; the proportion of bristles is according to the work it has to do; the angle at which the bristles, or bristles and wires are fixed, depends upon the nature of the fabric for which it was intended; the wires that are laid most down have the least effect on the cloth; the angle is not necessary in all cases; both the cylinders in the model were fitted with the brushes having bristles and wires intermixed; would not swear he had made any machines with wires in both cylinders.

Re-examined by *Sir J. Scarlett*. Plaintiff's patent brush of 1818* was well known in the West of England and

* The specification of this patent, which was dated the 19th day of February, 1818, was as follows:—

"To all to whom these presents shall come, I, John Jones, of the city of Gloucester, Brush-maker, send greeting. Whereas his Most Excellent Majesty king George the third did, by his letters patent, under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster the nineteenth day of February, in the fifty-eighth year of his reign, give and grant unto me, the said John Jones, my executors, administrators, and assigns, his especial license, full power, sole privilege and authority, that I, the said John Jones, my executors, administrators, and assigns, should, and lawfully might, during the term of years therein mentioned, make, use, exercise, and vend within England, Wales, and the town of Berwick-upon-Tweed, my invention of "Improvements on certain parts of machinery or instruments used for the dressing of woollen and other cloths:" in which said letters patent there is contained a proviso, that if I, the said John Jones, shall not particularly describe and ascertain the nature of my said invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be enrolled in his Majesty's High Court of Chancery, within two calendar months next and immediately after the date of the said letters patent, that then the said letters patent, and all liberties and advantages whatsoever thereby granted, shall utterly cease, determine, and become void, as in and by the same relation being thereunto had, may more fully and at large appear. Now know ye, that in compliance with the said proviso, I, the said John Jones, do hereby declare that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained, in and by the drawings hereunto annexed, and the following description thereof: that is to say, My improvements consist of instruments of the nature of brushes composed of bristles and wires intermixed, fixed into wooden blocks, or blocks made of metal, or any other suitable material, which for the purposes of dressing woollen cloths are to be placed either upon the cylinders or wheels of gig-mills and other machines used for dressing woollen cloths, in the same manner as teasels or cards are placed upon such cylinders or wheels of gig-mills or other machines, or to be used by hand for dressing woollen cloths; but as the application of instruments possessing different degrees of strength and power is necessary for the dressing woollen cloths, in order that the wool which is to form the face or dress of the cloth may be

Yorkshire; the degree of strength required would be according to the fabric, and the manufacturer would order

raised or drawn from the body or ground of it in a progressive and regular manner, so these instruments possess different degrees of strength, and the proportionate and respective quantities and size of the bristles and wires composing the same varying, will afford the requisite power and strength; but no precise directions can be given for the working and arranging the instruments, as that must depend upon observation and judgment. Wires have long been applied to the purposes of dressing woollen cloths, and I do not claim their application to that object as my invention; but I do claim as my invention the intermixing of wires with bristles for that purpose, and the fastening of both so intermixed into blocks, for the purpose of dressing woollen cloths. For a further explanation of my invention, and the manner of manufacturing my instruments, reference may be had to the drawings annexed and following description, wherein are perspective representations of the several instruments exhibiting my improvements: I proceed, therefore, to describe the same as they appear in such drawings.

"Fig. 1, represents a block in which is fixed rows of knots or bunches of bristles and wires. The size of the wire and of the bristles, and the proportion of each intermixed, will vary with the description of cloth intended to be dressed; it may, however, be well to say, generally the size of the wire will be about the same as is usually applied for making of cards for dressing woollen cloths. The block, which on its face is convex to correspond with the form of a cylinder or wheel of a gig-mill, as shewn in the drawings, is perforated with as many holes, at equal distances in rows, as there are to be knots or bunches of bristles and wires, and the depth of the holes are to be about half an inch. The wire, after it is cut into convenient lengths, is beaten at the end intended to be fastened into the block, by a hammer or rough instrument of iron or steel, to imitate the roots of bristles, in order that both may tie well together, the proportion of each being then determined, they are intermixed by means of a comb such as is commonly used for cleansing bristles, and turned about in the hands till both become properly intermixed, or in other words if the proportion of bristles is three to one of wires (which I will suppose to be the proportion of bristles in fig. 1), every wire will be surrounded by three bristles. I now take a small knot or bunch from these intermixed bristles and wires, the quantity of which will be according to the size of the holes in the block, and dip the ends or roots into hot pitch, I then take a thread and twist around the part pitched which ties the knot or bunch together, the end is again dipped into hot pitch and instantly fixed to the bottom of the hole in the block, beginning at a corner hole of the same. I proceed in the same manner to fill the next hole, in direction across the block, and so on till the first row of holes across the block is filled: the bristles and wires will now stand above the surface of the block according to the length of them before they were fixed in.

"Fig. 2, represents a knot or bunch of bristles and wires before it is fixed in the block.

"Fig. 3, represents the same when cut off to its proper height. Before another row of holes is filled, I cut off that length of bristles and

accordingly; the perpendicular brush acts more powerfully in raising the pile. Plaintiff's patent of 1818 was

wires which is above the height of that I intend shall stand above the surface of the block. The rows may be cut off to an even or uneven surface, and also may bear an inclination to either side of the block as the holes are bored, and as occasion may require.

"Fig. 4, represents another instrument or brush of bristles and wires intermixed, fixed into a block in rows of knots or bunches, the ends of the wires of which are bent forward and formed into hooks, bearing over towards the front edge of the block, the manner of fastening the bunches of bristles and wires making the same, being as before described. I proceed to shew my method of turning the wires and cutting off the same. I have before stated that the holes may be bored so as to cause an inclination of the knots or bunches of bristles either way, and for the better formation of the hooks of the wires in fig. 4, the erection of the rows of knots or bunches will incline towards the back edge of the block, and the points of the hooks of the wires will incline towards the front edge of the block.

"Fig. 5, is a section of the block, with one row of bristles and wires standing across the block representing the wires turned to form the hooks: the row of bunches of bristles and wires is to be cut in the direction from *a* to *b*.

"Fig. 6, represents the row when cut off.

"In fig. 4, the last or back row of bunches is composed of all bristles, and in some of these instruments I place a row of bristles in the front of the block, or entirely all round. The mode of fixing the bunches of bristles and wires in figs. 1 and 4, I prefer, because it causes the bunches to spread at their tops, the parts which are to enter into the cloth, thereby making the wires and bristles to enter the same singly; but it is obvious they may be drawn into blocks of wood with wires or string, in a manner similar to that usually practised in manufacturing common brushes, such as shoe-brushes, scrubbing-brushes, &c.

"Fig. 7, represents an instrument composed of bristles and wires intermixed, in undivided rows fixed in an oblique direction across the block, which is of shape and size similar to those of figs. 1, and 4, the block is grooved or channelled with as many grooves or channels as there are to be rows of bristles and wires, of a width to admit that portion of bristles and wires to be fixed in, and depth to give a secure fastening. The bristles and wires are intermixed by the same means as before stated.

"Fig. 8, represents a piece of strong wire doubled or turned in the middle, the ends coming together, as seen in the drawing, with a row of bristles and wires intermixed laid betwixt the two wires; the ends of the strong wire are then fixed into a screw or press, the middle or doubled part being made fast; it is then twisted until the shape of the bristles and wires becomes similar to fig. 9; it is now worked into a groove of the block, and becomes a row in fig. 7; the wires are then bent towards the front of the block to form hooks, and are cut off in the same manner as those of fig. 4.

"Fig. 10, represents an instrument composed of bristles and wires intermixed, in undivided rows lengthways. The whole process of making this instrument being the same as fig. 7, it is unnecessary to

for raising the pile before shearing; it was applied to the cylinder of the gig-mill in the same way as the teasel; the application of the brush would cleanse the machinery itself.

Mr. F. Pollock then took several objections to the plaintiff's specification. In the first place, the patent was taken out for a machine applicable to cleansing machinery, and not a single word in the specification pointed out in what manner that could be done. In the next place, the machine invented was professed to be described entirely. A claim was made for setting the brushes at obtuse angles, and yet neither cylinder, *B*, nor cylinder, *C*, in the drawings and models, had these obtuse-angled bristles. The third objection related to the patent which the plaintiff took out in 1818, for "improvements on certain parts of machinery or instruments used for the dressing of woollen and other cloths." The specification

enter into further particulars; the undivided rows of bristles and wires may, of course, be fixed in any direction in the blocks.

"I have stated generally that all these instruments will have such proportions of wires and bristles, as the description and nature of cloth intended to be dressed by them will require. It is obvious that these blocks may be made of any shape and dimension, and attached to the mills, either by the handles represented, or by any other means which may be deemed most eligible.

"Fig. 11, represents a cylinder or roller of wood, with knots or bunches of bristles, or bristles and wires intermixed, fixed into it, for the purpose of cleansing my instruments, or any other instruments or teasels, whilst they are working in the cylinders or wheels of gig-mills or other machines, to dress woollen cloth, with bunches of bristles, or bristles and wires intermixed, fixed entirely round the cylinder or roller, at the distance of about half an inch from each other, the height of the knots or bunches of bristles, or bristles and wires intermixed, will be, after they are cut, from one inch to three inches above the cylinder or roller. The length of this cylinder or roller will be the length of the gig against the back side of which it is to work: the diameter will be from three inches to twelve inches or more. The particular plan of working it by means of the gig against the cylinder or wheel, against which it will rub or brush, must depend upon a variety of circumstances, such as the situation and construction of the gig-mill: the speed also of the cylinder-brush running upon its own axes or spindles, must also be governed by the machinery of the gig; and when circumstances will not admit the cylinder-brush to cleanse instruments for dressing woollen cloth whilst the same are fixed upon the cylinder or wheel of a gig-mill, then they may be taken from the cylinder or wheel of a gig-mill and cleansed separately by means of this cylinder-brush composed of bristles and wires intermixed.—In witness whereof, &c.

"JOHN JONES."

of that patent distinctly communicated to the public a description of brushes made of bristles and wires intermixed, which brushes were applicable to the cleansing of machinery; therefore the plaintiff could not take out another patent for the same purpose. The plaintiff was bound to tell the public the proportions, which he entirely omitted in his patent of 1824, and not leave them to make experiments, because as the matter was new no man could bring experience to the subject. If he found it answered it must have been within some limits or some definite proportion, and that proportion he was bound to state to the public. It was necessary in 1818, and there he did state it; it was necessary in 1824, and there he did not state it. From the words of the two specifications, it was clear they referred to the same description of subject, and the plaintiff was seeking to extend to himself the benefit of a patent which expired in 1832, six years longer, namely, 1838.

Mr. Milner was also heard in support of the objections.

Sir J. Scarlett, in answer to the objections, argued, first, that a machine already known could not become the subject of a patent merely because you applied it to a purpose for which it was not known before, unless something new was introduced into the combination. Whether the original inventor says it is "applicable to various other purposes," or omits the statement, it makes no difference: many persons, who find the machines applicable to purposes which they did not contemplate, introduce those general words to shew that the machine is applicable to a greater variety of purposes than they have stated. To the objection that the brushes were not sufficiently described, the Learned Counsel replied, that the plaintiff did not claim the combination to make the brushes, but left it to the judgment of the party using the machine; the machine would do either with bristles and wires, or bristles alone: it rests with him, also, as to what degree of obtuseness he will have the bristles, or bristles and wires placed. With regard to the objection as to the former patent, the brush claimed now as original was not the brush contained in the former specification; all the plaintiff claimed was the construction of a brush with the bristles at an angle. If he had said nothing about it, it would have been objected that he had set forth some-

thing as new that was known before, and that he left people to find out what he had described in his former specification. In the specification of 1818 not a word was said about an angle, the brushes there were all ordinary brushes set at right angles, or set with angles in all directions. The patent was not a renewal of that of 1818, but simply stated that the brushes now claimed were brushes made in this particular form, and not those claimed in the patent of 1818.

Mr. Cresswell and *Mr. Rotch* followed *Sir J. Scarlett* in answer to the objections; and *Mr. F. Pollock* briefly replied, recapitulating his objections.

Lord Denman.—This is a patent which appears to have been of very considerable value, a great improvement in the machine; but it is obvious on the face of the patent and the specification, in connexion with the evidence given, that there is no useful invention for which the plaintiff has entitled himself to the patent by describing it properly in the specification. As the title of the patent is for dressing and cleansing machinery, I should certainly have thought it essential that the specification should have said something as to the mode in which machinery was to be dressed and cleansed; it does not appear, from the beginning to the end of this matter, that it is set forth in the specification. The patent is certainly claimed for that as well as other objects, but the mode in which that object is to be effected, does not appear. But I think there is a still stronger objection. It is stated in the argument for the plaintiff, that the setting the bristles upon the cylinder at obtuse angles is considered as the very point of value of the invention, and yet in the whole course of the description the obtuse angles are never mentioned as part of the things which he claims. It may appear on the drawings to be at obtuse angles, though it requires some minute inspection to discover it, but it is not stated in the description; it is not stated in what way that it is valuable, or an improvement on former machines of the same nature. But it also appears on the evidence, that obtuse angles are in no way essential in doing the work they are required to do: the very thing that is stated as useful, as the valuable principle in the improvement, turns out, on the evidence of the scientific witness who is called, to be perfectly immaterial for performing the operation required.

The real point of invention ought to be claimed either expressly or implicitly as well as being represented in the drawings.

It appears to me the very foundation of the invention fails, according to this description. There is that unfortunate dilemma from which the plaintiff cannot escape, that in the first place it is extremely ambiguous and very difficult to know, precisely, what it is that is claimed by this language; but supposing it to be clear, and that the mode at which they are said to be placed at obtuse angles is an essential part of the principle on which the invention is said to be valuable, then it seems to me to be proved by the plaintiff's witness, who understands it thoroughly, that the setting or drawing at obtuse angles has nothing to do with the brushing, or moistening, or cleansing woollen or other fabrics, any more than if they were set at no angle at all. Therefore I think there is no valuable invention set forth in this specification as connected with the evidence. I must say it appears to me, in connexion with this evidence, that it is hardly possible to say the patent is not for the very same invention as that described in the former patent. I do not enter minutely into that, but it does appear to me that is the effect; and if the present machine is protected by that patent, this patent would fail. In point of fact, the party would be claiming an extension of six years beyond the period he has a right to claim. I think, I am bound to call the plaintiff.

The plaintiff was nonsuited.

MINTER v. WELLS AND ANOTHER.

In the Court of Exchequer, Guildhall, before Mr. Baron Alderson, and a Special Jury.—July 5, 1834.

THIS was an action brought by the plaintiff, the patentee of an invention which had for its object improved constructions of easy chairs. The patent was granted for "*Improvements in the construction, making, or manufacturing of chairs, which he intends to denominate 'Minter's reclining chair,'*" and was sealed at Westminster, the 9th day of November, 1830.

Mr. F. Pollock and Mr. Evans were for the plaintiff, and Mr. Sergeant Talfourd and Mr. Godson were for the defendants.

Mr. Evans opened the pleadings. The declaration

was in the usual form, and the defendants pleaded not guilty.

Mr. F. Pollock then addressed the Court and Jury, and in doing so he explained the plaintiff's invention by the aid of models, and there were also chairs made according to the plaintiff's invention in Court, which were examined and tried by his Lordship and the Jury. The Learned Counsel also explained the nature of the chairs made and sold by the defendants, in which there were many differences of construction, but it was found that the chief difference was in reversing the position in which the parts were applied to the back and seat of a chair, and the other differences grew out of such alteration of the placing of the parts.

Mr. Evans then put in the patent and the specification.*

* The specification was as follows:—

"To all to whom these presents shall come, &c., &c.—Now know ye, that in compliance with the said proviso, I, the said George Minter, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained by the following description thereof, reference being had to the drawings hereunto annexed, and to the figures and letters marked thereon, (that is to say):—

"My invention of an improvement in the construction, making, or manufacturing of chairs, consists in the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counter-balance to the pressure against the back of such chair, and whereby a person sitting or reclining in such chair, may, by pressing against the back, cause it to take any inclination, and yet, at the same time, the back of such chair shall, in whatever position it is placed, offer sufficient resistance and give proper support to the person so sitting or reclining in such chair: but in order that my invention may be more clearly understood and carried into effect, I will now describe the drawing hereunto annexed, which represents an easy chair constructed according to my invention.

"Description of the Drawing.

"Fig. 1, represents a perspective view of an easy chair; fig. 2, a side view of a chair having one of the side rails removed for the purpose of shewing the action of the various parts; fig. 3, is a back view of the chair, and fig. 4, shows some of the parts on a larger scale; in all which figures, the same letters of reference are used to indicate similar parts: *a*, is the back; *b*, the seat; *c*, the hinder legs which rise above the seat, (seen at *d*, *d*) for the purpose of receiving and supporting the back, *a*, of the chair, which is suspended by pins, *f*, *f*, one on each side of the chair; these pins pass through the outer framing of the back, and screw into a nut or plate affixed to the parts, *d*, *d*, which is clearly shewn in fig. 4; *g*, *g*, are two iron plates affixed by screws to the side framing of the back of the chair; and it is the application of these

the name of Sutton. There are no such iron plates as are described in plaintiff's specification in defendants' chair; the back of the seat is hinged to the bottom rail of the back of the chair; there must be a cross-rail at the bottom of the back, or nothing could be applied. In defendants' chair inclined curves are used; they are slightly curved; the straight line would do in either case imperfectly.

Mr. W. Brunton, examined by *Mr. Evans*.—Has heard the evidence of *Mr. Farey*, and has examined both chairs, and agrees with *Mr. Farey* in that evidence. Has been an engineer between thirty and forty years, and is very conversant with patents. Never knew such a chair as plaintiff's before his came out; considers it quite a new invention.

Cross-examined by *Mr. Godson*.—Never heard of Sutton's chair. Has had occasion to look at chairs of various descriptions, but never saw one with the self-acting principle before plaintiff's. (The Learned Counsel handed to the witness a model of a chair said to be Sutton's.) This is not on a self-acting leverage principle; there is no adjustment of balancing here: if a person were to get up entirely from the chair, and put the chair in the position, and sit down, it would stop there; but you could not do it yourself without great exertion: an active man might do it, but a sick man could not. This chair and plaintiff's are not alike.

Re-examined by *Mr. F. Pollock*.—According to the construction of plaintiff's chair, in whatever position you put it, it will remain there till some force is used to alter it; this is not the case with the chair produced by *Mr. Godson*; there is no principle applied to adjust the weight of the back and the weight of the seat in different positions, so as to produce that equilibrium.

Mr. Farey re-examined by *Mr. F. Pollock*.—Is perfectly well acquainted with the chair produced by *Mr. Godson*, but did not know it by the name of Sutton's, having made trial of one: there is no self-adjusting leverage in it, nor any leverage whatever; in the model produced there is a leverage. The knobs behind, in the model, produce a leverage; but there were no knobs in the chair witness used, the seat never rises at all, which is peculiarly uncomfortable, so that you always sit in a horizontal seat when you want an inclined plane.

Mr. W. Carpmael, examined by *Mr. Rotch*.—Is an

engineer, has been in practice about nine years. The self-adjusting leverage in plaintiff's chair is produced by the inclined plane in conjunction with the parts, *h, h*. In the one instance the under parts marked *h, h*, (in the plaintiff's specification,) pass along the inclined curves marked *i, i*: in the other instance (the defendants') the inclined planes or curves pass over the front rail of the chair. If you approach the point of support of the seat of the chair along the inclined curves, the seat has always a capability of returning. It is the travelling along of the point of support, *h, h*, under the inclined curves in the plaintiff's chair, and the passing of the curves over the front rail of defendants' chair which produce respectively the self-adjusting leverage. Believes Mr. Minter's invention to be new; specified a patent chair for Mr. Daws about 1826, and then had occasion to inquire what had been done before in easy chairs: has since been engaged for others, but never met with anything approaching to the plaintiff's invention, before plaintiff's patent.

Cross-examined by *Mr. Sergeant Talfourd*.—Has been an advising engineer for the last nine years, and extensively engaged in patents and specifications.

Re-examined by *Mr. F. Pollock*.—Was applied to by the solicitor to attend as a witness for the defendants, just after the action commenced, but declined to attend in their behalf. The great peculiarity in plaintiff's chair is that it at all times gives support to the body in every position of the chair. This effect is produced by the inclined curves or planes, and the combination of the back and seat of the chair, which is not to be found anywhere but in plaintiff's and defendants' chairs. The plates, *h, h*, mentioned in plaintiff's specification are not common to any other chair but plaintiff's.

Mr. Richardson, examined by *Mr. Evans*.—Is an upholsterer in Holborn. Has been in the trade from infancy; has sold Mr. Minter's chairs; never saw one of that description before 1830; considers it a new invention. Has seen the chair called Sutton's; did not know it by that name before; never sold any of them. Has had some of those chairs, but not with knobs at the back.

Mr. Sergeant Talfourd here called his Lordship's attention to the terms of the specification as compared with the evidence given by the witnesses, with respect to the means by which the effect in the plaintiff's chair was pro-

duced, and contended that there was nothing in the specification which could apply to the evidence given. According to the testimony of all the witnesses, the effect was produced by the self-acting leverage or the inclined plane: and in the specification it was attributed to something else—the iron plates at the back of the chair. The first claim which the plaintiff makes was in these terms: "My invention consists in the application of a self-adjusting leverage to the back and seat of a chair," &c. That is, the description of the effect and result produced by the invention. Then, having described the plates, *g, g, h, h*, the plaintiff goes on to say, "It is the application of these plates, *g, g, h, h*, by which the object of my invention is obtained." According to the evidence of the witnesses, it was by the operation of inclined planes that the end was obtained. Plaintiff could not have a patent for that sort of divided lever—a bent lever, by which the action of one part of the body would form a counter-balance to the weight of the other part. It was the means by which he does that for which he seeks this patent. The circumstances which he points out as being the means is not the inclined plane, but the iron plates fixed at the bottom of the chair.

Mr. Baron Alderson requested the Learned Counsel to read the paragraph to the end, and then no such construction could be put on the specification. After some further conversation with *Mr. Sergeant Talfourd* and *Mr. Godson*, his Lordship observed;—If you can show ultimately that chairs have been before constructed with a self-adjusting leverage, you will certainly then show that the plaintiff has claimed more than he is entitled to.

Mr. Sergeant Talfourd then addressed the Jury for the defendants.—He agreed with his Lordship, that it is much better to come at once to that which is the real point in the case, throwing overboard all the rest, about which there can be no difference of opinion. The case now resolved itself into some very simple points, upon which the Jury would have to hear some evidence on the part of the defendants. He entirely agreed with his Learned Friend, that the views taken at the present time of meritorious inventions are much more correct than formerly, when actions for patents scarcely, if ever, succeeded. The two questions for the Jury to consider were, whether the plaintiff is or is not the inventor of anything new; and, in the next place, whether he is the *bond fide* inventor, or whether

another person invented it. Another question will be, whether the defendants have infringed that patent. Is the plaintiff claiming some principle applied to chairs, never applied before, or is he claiming in respect of certain minute combinations and circumstances, which render the operation of that principle more perfect and complete. It will be shown, by the evidence of Sutton, that that principle, although not so perfect, was known, and actually applied, by him at a time long antecedently to the period of the plaintiff's patent.

Then there is another question; if this chair be not altogether new, if Mr. Minter be not the real and true inventor, but had been invented by an ingenious man in humbler circumstances than himself, he has no right to sustain his patent. It will be proved that an individual of the name of Lutton went about to various persons to advance him money for the purpose of obtaining a patent. The Learned Counsel (*Mr. F. Pollock*) has referred to some agreement or arrangement which took place between Mr. Lutton and Mr. Minter at a subsequent period; but that being the property of Mr. Minter, it rests with him whether it is to be produced; but if it be, it will be seen that the terms of the contract are altogether inconsistent with any other notion than that plaintiff knew Lutton was the real inventor. The principle on which a patent is granted is, as a reward to a person who, by his own wit or genius, invents that which is a benefit to his fellow-men; and a person must make oath that he is the inventor himself: the question is, whether that which was sworn by the plaintiff on this occasion was really true, whether he or Lutton was the inventor of the chair. Lutton will not be produced by me, but only the persons who made the chair for him, without any intervention on the part of Mr. Minter.

Frederick Tompkinson, examined by *Mr. Godson*.—Is a chair-maker; knew Lutton by sight in 1830; he was a chair-maker. Lutton was making chairs on his own premises in March, 1830, exactly similar to the plaintiff's; with iron plates and a fulcrum, fastened in front and behind exactly similar. Saw about a dozen or more chairs of that sort. Several men were employed by Lutton.

Cross-examined by *Mr. F. Pollock*.—Was an apprentice at the time; went to see a shopmate who worked at

Lutton's, and there saw the chairs. Does not know what became of them; saw them last June four years; has made the same chairs himself for an upholsterer, about twelve months since. The action of the chair he saw at Lutton's was this: there was a circle on the back of the seat; the back was poised so that the counteraction of the seat should act against the back. Did not see any of these chairs in a condition to be sold. Does not know who Lutton was making them for; has heard since that he worked for Mr. Minter. Knew Lutton four years ago; at that time he kept a manufactory in Dean-street, and worked for the trade. Had not been requested to be a witness, but had come voluntarily that morning, hearing that a trial was to take place. Has made chairs exactly according to the patent chair without the leave of the plaintiff.

His Lordship remarked that the witness, having infringed the patent, was liable to an action, and this might account for his being a volunteer.

Re-examined by *Mr. Godson*.—The chair-maker, in general, does nothing more than the wood-work, except put on the castors. The chairs at Lutton's were so far finished as a chair-maker would have to do with them; they were finished as far as the acting principle was concerned.

John Highley is a smith; knows Lutton; was employed by him on the 25th September, 1830, to make iron plates, exactly like those in the model; they were intended for chairs; has seen them after they were put together, three or four years ago. When he made the plates first, Lutton lived in Wells-street, but afterwards in Dean-street.

Cross-examined by *Mr. F. Pollock*.—Saw the plates in Dean-street; Lutton moved from Wells-street to Dean-street; he was in Wells-street when the first irons were made; did not see any chairs finished until two or three months after the irons were made. Had worked for Lutton long before that time, and had made iron-work for him, but none of the same sort until the 25th September, 1830. Mr. Minter's name was on the door in Dean-street, but not in Wells-street.

Charles Wilson is a baker in Wells-street. Lutton occupied a back shop of witness down to the June or Sep-

tember quarter, 1831. Lutton showed him a chair in 1830, in the back shop in Wells-street; it was a reclining chair acting by balances; it was similar to that produced as the plaintiff's.

Cross-examined by *Mr. F. Pollock*.—There was a party in the habit of coming, at the latter part of the time, on Sunday; was informed it was Mr. Minter; he used to come on Sunday, and was closetted with Lutton, when the workmen were away. At that time Lutton worked for the trade.

Re-examined by *Mr. Sergeant Talfourd*.—Only one came on the Sunday; cannot recognise Mr. Minter.

William Pitt is an engineer. Heard Lutton speak of a reclining chair about the time Mr. Minter took out his patent. The chair Lutton spoke about afterwards was called Mr. Minter's chair. It was about six months between Lutton's speaking to witness about the chair and showing the chair.

Charles Handy is a carpenter. Knew Lutton in the year 1829, at the time he was making a patent chair. Advanced Lutton money; has sometimes paid Highley's bills on Lutton's account. Mr. Minter's name was over the door in Dean-street.

Joseph Langdon is a carver in the wood line. Knows Lutton; was employed by him to carve chairs similar to the plaintiff's. The chairs were similar to that, but had not that action; the first chairs he made were hinged in the stump; they acted on a hinge on the back leg; he made up a dozen, but did not send them forth to the world. To a man who was not a judge, perhaps he might say they were the same as these; there were a dozen of them. The concern was parted with to persons of the name of Brown and Yates; the chairs, the invention of the chairs, and everything else, was sold to Brown and Yates. It might be about twelve months before witness saw plaintiff's chair that he saw the dozen spoken of; they were not balanced; they were hinged and went with a rack under the seat; the sitter balanced himself by means of a wrench and a rack, in the common way.

John Benker.—Is an upholsterer. Stuffed the back and seat of a chair in September, 1830, for the purpose of showing it to Mr. Minter. The chair was exactly like the plaintiff's.

Cross-examined by *Mr. F. Pollock*.—Lutton brought the chair and remained while it was stuffed. It was only stuffed in a temporary way for the purpose of showing to Mr. Minter. Lutton brought only the back and seat; saw the remainder at Wells-street during its progress. Has never quarrelled particularly with Mr. Minter; called on him about some benches, and he would not give them up, and he (witness) was very much vexed.

Mr. Benjamin Lawrence, attorney for the defendants.—At the time this cause was down for trial at the last sittings, Lutton was brought from the Whitecross-street Prison, as a witness on behalf of the defendants: since that time he has left the prison; has caused due diligence to be used to discover him, but hitherto without effect.

James Sutton is a chair-maker. Made the chair produced; it is his own invention. Began to make those chairs as early as 1830. They had no knobs; but they would act as this does without the knobs.*

Mr. F. Pollock, in reply, said—He hardly knew to what topic to address himself. It was said that there was no evidence that Mr. Minter employed Lutton, but was not Mr. Minter's name over the door in Dean-street, according to the testimony of three witnesses. There is no distinct evidence that Lutton was in the service of Mr. Minter; but there is this evidence, that a person of the name of Minter came on the Sunday; and it can easily be judged why Sunday was selected, because the idle boys, and apprentices, and curious workmen would not be about. From Wells-street, Lutton went to Dean-street, and there Mr. Minter's name is over the door.

The first question asked by the Learned Counsel is, "Is the plaintiff the inventor of anything new?" And Sutton was called to prove that that was his chair, but as his Lordship observed, it was a very different chair. The next thing is, "Is defendants' an infringement of plaintiff's patent?" But not one witness that has been called by defendants have been asked that question; can any one have a doubt about it. Then it is said, Mr. Minter is not the inventor of it; why was not Lutton brought to prove this? The attorney who was put into the box does not say, "I have tried to get at Lutton;" but, "I have caused

* This chair was the same as was shown to Mr. Farey and Mr. Brunton, who were examined as to its being like that of the plaintiff.

due diligence to be used." If the absence of Lutton was honest, why did not the Learned Counsel apply to put off the trial? The absence of Lutton was not *bond fide*; for if it had been, upon an affidavit stating that he was a material witness whom they had tried to subpoena, and had not been able, his Lordship would have instantly postponed the trial. If Lutton had been put into the box he must have told the truth; and it was much better to get round about the thing, to deal in suspicion of what Lutton had said or done, and his whereabouts as to Wells-street and Dean-street, instead of putting him into the box. The trial might have been postponed before one farthing of expense had been incurred. That the plaintiff might take no particular pains to get a man here who might turn his testimony to the best account, is natural enough; but, in the absence of Lutton, what is the evidence you have to show that Lutton is kept back by the plaintiff? [Here the Jury intimated to the Learned Counsel that he need not proceed.]

Mr. Baron Alderson then summed up as follows:—The only question in this case is, in order to establish the right in the plaintiff, they must show that the invention is new, and that it is useful; and that the specification is such that an ordinary workman could make the machine, which would answer the purpose the patent was intended to accomplish. The patent is *prima facie* evidence on the part of the person who claims the right that he is entitled to it; and it is for the person who seeks to infringe it, to show some circumstances whereby that right, which otherwise would be presumed to have existed, has been improperly obtained by the plaintiff. He states in his petition, "that he is the true inventor of the machine in question;" if it could be shown he was not, the Crown is deceived in the suggestion made to it, which was the foundation on which it granted the patent; and then the law is, that a patent obtained under such circumstances would be void, and no action could be maintained against a party for the infringement of the patent, by reason of the suggestion to the Crown not being true. Then that issue would be that that suggestion to the Crown was not true. Now in this case, in order to show that, they put in the patent. Then you see what it is the plaintiff claims by the specification, which, he says, is the basis of his invention; and he says, by the specification, that his invention consists in this:

It cannot be sufficient to enable a competent workman to attain object of patent

"in the application of a self-adjusting leverage to the back and seat of a chair, whereby the person sitting or reclining in such chair may, by pressing against the back, cause it to take any inclination, and yet, at the same time, the back of such chair shall, in whatever position it is placed, offer sufficient resistance, and give proper support to the person so sitting or reclining in such chair." Then he goes on to describe the manner in which that is carried into effect; and he ultimately claims, pretty nearly in the same words, at the end he says, "My invention is the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counter-balance to the pressure against the back of such chair, as above described." So that the essence of the invention consists in the chair having what he calls a self-adjusting leverage; that is to say, by which the pressure on the seat raises the back, and the pressure against the back raises the seat, and that whatever force of the muscles is applied to disturb the equilibrium, the moment that is taken off, the body remains in the position in which it was left. Therefore it seems the essence of the claim to invention, and undoubtedly his claim is, the application of a self-adjusting leverage to the chair; and if it could be shown that any self-adjusting leverage had been before the plaintiff's patent applied to a chair, the patent would be void, because the specification claims every species of application of a self-adjusting leverage to the back and seat of a chair; he has not confined his claim to the particular way of accomplishing the particular purpose, by the particular engine, but has claimed the application of every such self-adjusting leverage to the back and seat of a chair. Now it is for you to say whether you are satisfied that the species of self-adjusting leverage has ever been applied to the back and seat of a chair before. That would be material in this way, because it would materially affect the second question which you would have to consider, which would be, whether the defendants have infringed the patent. For if there had been a self-adjusting leverage applied before, and the patent had been taken out for the particular mode of accomplishing it in the patent chair, any one else might have applied the same principle in any other way, and that would have been no infringement. But if the plaintiff's patent is for the application of a self-

adjusting leverage to the back and seat of a chair, then it would become a very different question when you come to consider whether the defendants' is an infringement or not.

The first question, therefore, which you will have to consider, is, whether the invention itself is new; that is, whether that which is claimed as the invention of the application of this self-adjusting leverage to the back and seat of a chair, ever existed before. If you are satisfied that it has not at any time existed before, then you will inquire whether it is a useful invention; but about that there seems no reasonable dispute. If that be new, if it be useful, and if the specification be such as that an ordinary workman could make the machine from the directions given in the specification, it would be a *prima facie* case on the part of the plaintiff. That may be answered by either one of two ways; and that is the way in which they seek to answer it, either by showing that the invention was not new, which turns upon the question, whether this chair (Sutton's) was made upon the same principle. Secondly, whether you think, that even though the invention was not known, the defendants' have shown, that the plaintiff was not the true and first inventor.

Now I do not know whether you would wish me to go over the evidence of Sutton. (The Jury intimated that such was not their wish.) Then I will call your attention to the other point. The question is, whether Lutton was the true and first inventor; if he was, the plaintiff is not entitled. But the defendant is to make that out—

(The Jury intimated they were well satisfied that it had not been proved that Lutton was the first inventor.)

Mr. Baron Alderson.—I think so too. The plaintiff must be proved to be the true and first inventor; but the circumstance of his being the first to introduce it is so far *prima facie* evidence that he was the true and first inventor. Then the question is, is that negatived by the evidence produced on the part of the defendants? That evidence comes to this. Tompkinson says, that prior to the invention being patented, that is the 9th of November, 1830, the date of the patent being taken out, he saw twelve chairs of a similar description to those for which the plaintiff is proved afterwards to have taken out a patent, in Dean-street, four years ago last March, that would be

in 1830, and the patent was taken out in November, 1830. If, therefore, he is correct, the plaintiff is not entitled to your verdict, but the defendants. The question will be, however, for you to say, whether you are satisfied that Tompkinson is right, first, as to the period of time when he saw the chairs in question; and, secondly, if he be right in that, whether he be right in saying that the chairs were of a particular description mentioned, the same as the plaintiff's chair. The way he describes that is this—"the chair was similar to Mr. Minter's; it had a fulcrum behind; and, in fact, was his chair." He says, "it was like the plaintiff's. I saw a dozen or more of that description on his premises; several men were employed there; I was apprenticed at the time to Mr. Fowler for seven years; I shall have been three years out of my time in December next. Lutton did not apply to me to make anything; I went to his shop in Dean-street; I saw some chairs; I saw them last time four years ago." He says, "I have seen one of them at Mr. Trevethan's," but it appears that was not the chair in question, but one that he himself made. He says, "I saw one or two of these finished; they were not stuffed; they were not in a condition to be sold; I have been acquainted with Lutton for several years. I do not know who Lutton was working for; he did not keep a shop, he worked for the trade; all were recumbent chairs that I saw." There is no doubt he might have seen twelve recumbent chairs in the state he describes the twelve chairs to have been seen; and yet it is also extremely probable that those recumbent chairs, the same in number and description, were chairs on a different principle, because we have the testimony of a person of a different description of the name of Langdon, who says, he remembers the chairs at this place, "that there were twelve chairs; that they were finished, but not stuffed." But when he is examined as to the principle on which these chairs were made, he says, "They were not on the same principle with the chairs in question, but that they were hinged, that they went on a rack behind;" which undoubtedly was the state in which all the gentlemen of science state was the condition at which chairs had arrived previously to the plaintiff's invention. I think, therefore, it is probable, when you weigh the evidence, that Tompkinson is very likely to have seen the twelve chairs in question, which were on a different plan; if he

saw them prior to the time of the patent, his seeing them would not prove that there were any chairs like Mr. Minter's in Lutton's possession. He says, "John Chapman was working for Lutton; Chapman is not here nor Lutton." Lutton would be a most important witness, for this reason, that Mr. Minter and Lutton were together about the time the invention took place; which of the two suggested the invention, and which carried it into effect, is a question for you to decide. If Lutton suggested the principle to Mr. Minter, then he (Lutton) would be the inventor; if, on the other hand, Mr. Minter suggested the principle to Lutton, and Lutton was assisting him, then Mr. Minter would be the inventor, and Lutton would be a machine, so to speak, which Mr. Minter uses for the purpose of enabling him to carry his original conception into effect. You will judge which is the more probable of the two. Mr. Minter makes out his *prima facie* case; he is the person who takes out the patent. We do not find that Lutton ever claimed to take out the invention. If Lutton has received a compensation, nothing would have been more simple and easy; if Lutton was the man who took out the patent, still Mr. Minter might have the same benefit to-day, and there is no apparent reason why Lutton should not have taken out the patent which Mr. Minter has taken out, unless they were both desirous to ruin the invention. For suppose two persons are engaged on an invention of this description, they know perfectly well between themselves who is the real inventor of it, and who is the person to carry into effect the conception; but they would destroy the value of it to both if they did not take it out in the name of the right person. Whatever the probabilities of the case therefore are, you will not leave that entirely out of the question. Then Highley's evidence, the smith's, is perfectly analogous. He says, "He knows Lutton; he was employed by him to manufacture some iron plates; he was employed in September, 1830." It is probable that in 1830, whether you take Mr. Minter to be the inventor, and Lutton the mechanist whom Mr. Minter employed, in either view of the case, Mr. Minter might have given the shape of these plates, and sent Lutton to order them of the smith; and we find that about September, 1830, must have been the period of time at which Mr. Minter would have been engaged in the invention one way or the other. The patent

is taken out in the November following. One pair of plates only is ordered in September; that looks like an experiment. Then the patent is taken out in November, and then a dozen pairs are ordered; that looks like carrying into effect the plan when the invention is completed. He does not see any chairs with the plates upon them until two or three months afterwards; and it is quite clear that the patent had been taken out by that time. He says, "He saw some chairs at Dean-street;" that was after the patent was taken out. "He made a dozen plates in November, cannot say the day precisely, it was after the date of the patent. Lutton moved into Dean-street in September; he had employed me before; I think Mr. Minter's name was over the door." Now it was the place where Lutton was working; and therefore, though we have no direct evidence between them one way or the other, he might not be his servant; he might be assisting him to carry into effect this invention, Mr. Minter wanting an adroit hand to carry into effect the conceptions of his own original head. Then the baker, Charles Wilson, says, and his evidence is most material, "That sometime in 1830, but whether it was in spring or autumn, he cannot tell," and yet that makes all the difference, "Lutton shewed him in the back shop a chair which was very like plaintiff's chair, upon which he was working at the time, it acted by balances, and the action was according to the weight. It was six or eight months before he removed;" now he removed in June or September, 1831; take six months from September, 1831, it will be the beginning of 1831; take away eight months from June, 1831, it will be about November, the period in question. Then he speaks of a young lad; this was probably Chapman, who is not called. Then he says, "There was a person called there called Minter;" the probability is that it was the plaintiff; he used to come with Lutton on a Sunday into the back shop." At that time, of course, the workmen would be away, and he would be left alone. If Mr. Minter was the person making the invention, and was probably consulting with Lutton for the purpose of getting this conception carried into effect, is it not probable he would come at those times when there was no other workman about, that the invention might not get out to the trade? Because it not unfrequently happens that some workman turns traitor, gives out the original conception, which

is the original invention; some other adroit workman carries on his proceedings in a more rapid way, and so destroys the patent right.

If you are of opinion that the plaintiff is the first and true inventor, that the invention is useful, and that he has given such a description in his specification as would make an experienced workman able to make the chair from it, there seems no doubt that the defendant's chair is an infringement of that patent, because undoubtedly it is a colourable variation, and a colourable variation only. There is a celebrated case which Mr. Justice Buller mentions, where a party produced a machine which at first sight appeared to be totally different from that which was the subject of the patent; but when you came to consider it, all the difference was, that the head was where the tail should be, and the tail where the head should be; but they operated on the same principle; and so it is precisely here; both the parts are turned. The whole case is now before you. You will consider whether you are satisfied that the plaintiff has made out his case—that he is the inventor of the machine, that the machine is new, that it is useful, and that he has delivered such a specification as would enable a workman to make it, and that that which the defendants have brought out is an imitation of it.

The Jury immediately returned a verdict for the plaintiff.

MINTER v. WELLS AND ANOTHER.

In the Court of Exchequer, Westminster, before the Lord Chief Baron Lyndhurst, Mr. Baron Alderson, Mr. Baron James Parke, and Mr. Baron Gurney.—November 7, 1834.

Mr. Godson (for the defendants) now applied to the court for a rule to shew cause why the verdict in this case should not be set aside and a nonsuit entered.

The Lord Chief Baron.—What is the ground of motion?

Mr. Godson.—The specification claims for a principle only.

The Lord Chief Baron.—The objection then is to the specification?

Mr. Godson.—Yes, my Lord. Though I would first

state, that in this model of the plaintiff's chair your Lordship will observe some iron plates nearly at the bottom of the back of the chair, which moves so as to lift up the seat. Those iron plates are not in the defendant's chair. This is the only point for which it will be necessary that the defendants' chair should be looked to. I draw your Lordship's attention to this fact, because in the plaintiff's specification he says, "It is the application of these plates, *g, g, h, h*, by which the object of my invention is obtained;" so that the object of his invention being obtained by those two plates, if he depend on the mechanical means described, then we have not taken those plates which produced the effect. This objection was taken at the trial, but was overruled by the learned judge, who observed, "I think the invention claims the self-adjusting principle:" and, accordingly, the defence was conducted upon that intimation, that the patentee was claiming for the principle—

Mr. Baron Alderson.—Carried into effect by certain mechanical means as applied to chairs.

Mr. Godson.—But the defendants did not use the same mechanical means which the plaintiff found out and used.

The Lord Chief Baron.—Then the truth is, it comes to this after all—Is it a colourable evasion of those mechanical means?

Mr. Godson.—My Lord, I am not going upon the evidence taken at the trial, but am only endeavouring to shew that the patentee claims the principle and not the means. Either the plaintiff by his summing up has claimed the principle and expects to keep a monopoly of the principle, whatever means are used to carry it into effect, or else he claims only the means which he has specified.

The Lord Chief Baron.—It must be substantially those means. It is not confined strictly to the means he has pointed out.

Mr. Baron Alderson.—If I remember rightly, Mr. F. Pollock, who led for the plaintiff, produced a skeleton of the leverage of the plaintiff's chair, which, by just reversing it, became the defendant's chair.

Mr. Godson.—I am not moving that it was not an infringement if he is entitled to the principle. But if he claims the principle, I think I shall satisfy your Lordships

he is not entitled to do so. If, however, your Lordships are of opinion that he claims only the mechanical means, then we say we have not taken those mechanical means.

The Lord Chief Baron.—He says, "What I claim as my invention is the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair, as above described." This is what he claims,—a self-adjusting leverage acting in that way. Then he points out the particular method by which that is effected. The question, therefore, is, whether you have infringed that method.

Mr. Godson.—If your Lordship will read two lines further back in the specification, you will find that he does not confine himself to that. He says, "I lay no claim to the separate parts of the chair which are already known and in use, neither do I confine myself to making them in the precise shapes or forms represented"—

The Lord Chief Baron.—"But I claim"—

Mr. Godson.—I am only using this as an argument to shew that he has claimed a principle, and that is only the using of a common lever. If he is permitted, under that claim, to have the sole use of it, he is in fact taking a mere bent lever in such manner that the shoulders of the person acting on one end, he sitting on the other end, the parts of the chair are equally poised: it is nothing more than a common balance—a common scale. The Learned Judge at the trial of the cause remarked, that "the essence of the plaintiff's claim is a self-adjusting leverage. If it could be shewn that a self-adjusting leverage was so applied to a chair before the plaintiff's patent, he is not entitled to retain it;"—clearly shewing that the claim was for the self-adjusting principle, and thus he would appropriate to himself a first principle. Now I need not quote cases to your Lordship to shew that it has been clearly settled that he cannot do that. The consequences must therefore be evident. He says, "I lay no claim to the separate parts of the chair which are already known and in use, neither do I confine myself to the making them in the precise shapes or forms represented;"—clearly intimating that he claimed to have the self-adjusting principle, in whatever manner it may be made by any mechanical man. The question therefore comes to this—has he summed up the whole of his invention so as to

shew that he has claimed a self-adjusting principle, then the self-adjusting being one of the first principles in mechanics, is he entitled to a monopoly of the use of that to himself?

Mr. Baron Alderson.—All the witnesses proved that there never had been a self-adjusting leverage used in a chair before.

Mr. Godson.—Yes, my Lord, I admit that;—and admitting that, in fact, it comes to the question whether that could be the subject of a patent.

The Lord Chief Baron.—He says, I claim the application of a self-adjusting leverage to the back and seat of a chair, so as to produce such and such an effect.

Mr. Godson.—Yes, my Lord, that effect being nothing more than the motion of a lever backwards and forwards producing such an effect.

The Lord Chief Baron.—It is the application of a self-adjusting leverage to the back and seat of a chair, he having described what self-adjusting leverage was before.

Mr. Godson.—Your Lordship sees if you go into that part of the description, then I say we have not taken the means by which he carries it into effect.

The Lord Chief Baron (having the model in his hand).—It is only turning it upside down.

Mr. Baron Alderson.—The thing which was exhibited before the jury was just reversing the parts, and then it would be exactly a *fac simile* the one of the other.

Mr. Godson.—Your Lordships will perceive it is nothing more than a common lever, the fulcrum being just at the back of the chair; and if he is entitled to sum up this principle, and maintain this patent, no person can hereafter, till the fourteen years have expired, apply a lever in this way. Your Lordships will see this is a very important patent to the trade, as well as to the parties to the suit; and it is necessary you should settle it between them. It comes before your Lordships not as a question of fact, but only as to whether the specification is good or bad.

The Lord Chief Baron.—Any application of the self-adjusting principle to the back and seat of a chair producing this effect—that the one acts as a counterbalance to the pressure against the other—would be an infringement of this patent, but nothing short of that.

Mr. Godson.—Yes, my Lord; and, therefore, every application of a lever to the back of a chair would be an infringement.

The Lord Chief Baron.—No; a self-adjusting lever.

Mr. Godson.—Yes, my Lord; but every lever is self-adjusting.

Mr. Baron Alderson.—No, no; that is what you tried before.

Mr. Godson.—He has claimed, by the specification, the use of the lever, for fourteen years, to the backs of chairs.

The Lord Chief Baron.—It is not a leverage only, but the self-adjusting leverage; and it is not the self-adjusting leverage only, but it is the self-adjusting leverage producing a particular effect, by the means of which the weight on the seat counterbalances the pressure against the back.

Mr. Godson.—Exactly so, my Lord; that is, in other words, a lever. It is not self-adjusting excepting by applying of the weight at each end.

The Lord Chief Baron.—It is so contrived that the fulcrum varies as the pressure varies.

Mr. Godson.—No, my Lord.

The Lord Chief Baron.—The pressure varies.

Mr. Godson.—The pressure only varies according as you move one end or the other. If you move your shoulders you go back, so that it is nothing more than a common lever steelyard.

Mr. Baron Alderson.—It is a very beautiful and ingenious invention, Mr. Godson, certainly.

The Lord Chief Baron (reading from the specification). —“The parts, *h, h*, support the back, *a*, of the chair in any position, and it will be evident by the passing or advancing of the parts, *h, h*, along the curved ends, *i, i*, they will approach the weight on the seat, *b*, and thereby shorten the leverage, and consequently lessen the action of such weight”—without an effort?

Mr. Godson.—Yes, my Lord; that is, the back of the chair is the one end of the arm, the part that is under, the other arm; and according as you apply the weight here, the one goes down; if you apply the weight to the other arm, then that comes up: and, therefore, my Lord, I am contending, that inasmuch as he has summed up and says this patent is for a principle—

The Lord Chief Baron.—You are using the word “principle” in a loose sense.

Mr. Godson.—The word principle certainly has never been very accurately defined, as applied to inventions; but it has never been doubted, that if you take one of the first principles in any science—for instance, the lever in mechanics—you cannot secure it by patent.

The Lord Chief Baron.—This is a mechanical contrivance.

Mr. Godson.—Yes, my Lord; it is nothing more than one of the first principles.

Mr. Baron Parke.—But that not being applied in combination before, can that not be patented?

Mr. Godson.—No, my Lord; I apprehend not. If he claim the combination, and then sums up the invention for the principle, and not for that combination—

Mr. Baron Parke.—It is only for the application of the self-adjusting leverage to a chair. Cannot he patent that?

Mr. Godson.—If that were so, then the words in which he makes his claim are bad.

Mr. Baron Parke.—But his patent is the application of a self-adjusting leverage to a chair, which is admitted to be a new combination. Cannot that be the subject of a patent? It is the combination of the two things which he claims as the subject of the patent.

Mr. Godson.—If your Lordship thinks that that construction can be put upon it, that is quite another question.

Mr. Baron Parke.—He claims the combination of the two,—no matter in what shape or way you combine them.

Mr. Godson.—What is the combination?

The Lord Chief Baron.—Why, the application of the self-adjusting leverage producing the effect, constitutes the machine; and he claims that machine, and the right to make that machine.

Mr. Godson.—If your Lordship translate this to mean machine, of course I have no further argument to use.

The Lord Chief Baron.—It is evidently a machine consisting of a self-adjusting leverage producing that particular effect on the chair.

Mr. Baron Alderson.—Therefore a chair made on that

principle which you have directed to be made would be an infringement of his patent.

Mr. Godson.—That being your Lordship's opinion, I have nothing further to say on that point. I have now another ground to urge. Your Lordship will remember that there was a man of the name of Lutton, who, the trade say, was the original inventor. The trial came on many months ago, and, by good luck, Lutton was then in the King's Bench, and, by *habeas corpus*, he was produced, but the cause not being heard on that day, Lutton has been absent from that time. We tried to obtain his presence at the trial. We called the witness who made those very iron plates for Lutton. We called a witness who saw the chair made on a self-adjusting principle. We called a witness who stuffed the chair for Minter to see—all was complete, except producing Lutton himself. I have an affidavit that, the moment the trial was over, Lutton could walk forth, but as long as the trial was pending he was out of the way. We could not move to put off the trial on that ground. We could not say, we could produce him. I think the Learned Judge will see that we supplied every possible evidence that could be supplied, excepting Lutton, to shew that Lutton was the inventor.

Mr. Baron Alderson.—The case on the other side was, that Minter and Lutton were locked up together in a workshop on a Sunday, and the jury believed, and I thought so likewise, that they were inventing this patent.

Mr. Godson.—That was in consequence of our not being able to shew when Lutton left Wells-street, and the consequence was, that a witness said that somebody came there, and the inference was that it was Minter.

Mr. Baron Alderson.—No, not exactly somebody, "There was a man called Minter came to the house."

Mr. Godson.—But still we could not fix whether it was after the plates had been made and after the chairs had been stuffed for Minter. Whether Minter's being there on a Sunday was before or after the chair had been made.

Mr. Baron Alderson.—I will just read; a person of the name of Wilson, a baker, in Wells-street, said, "Lutton occupied a back shop, four or five years, till June or September, 1831. I remember his shewing me a chair in 1830. Cannot say whether it was spring or autumn. He shewed it me in the back shop. It was a reclining

chair, acting by balance: where the weight was, that part went down. I called upon him afterwards, in Dean-street. He went from Wells-street to Dean-street. He had several men in his employ. There was a man called Minter, who used to come on Sundays, and be with Lutton alone. I cannot recognise the plaintiff as being that Minter."

Mr. Godson.—Your Lordship sees the great importance of having Lutton. If those meetings were before the chair was shewn to Minter, what was the use of shewing him the chair? The parts you see were made by separate parties,—the wooden part by one party, the iron part by another, and it is stuffed by a third.

Mr. Baron Alderson.—Minter went to see how the combination did together.

Mr. Baron Gurney.—That is quite consistent.

Mr. Godson.—Minter was an upholsterer; what reason was there for Lutton to do this?

Mr. Baron Gurney.—Not to do it in his own shop.

Mr. Godson.—It was not done in Lutton's shop.

Mr. Baron Gurney.—No; it was done in different places in order that it might not be seen.

The Lord Chief Baron.—Every invention of this kind must include the application of some principle; and here the application of the principle of the lever to the construction of a reclining chair constitutes the machine, the invention of which the plaintiff claims. He does not, as it is asserted, claim the principle in the summing up of his specification; but he claims the invention of applying that principle in a certain manner and by certain machinery. He says, what I claim is, the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counter-balance to the pressure against the back of such chair, as above described. The claim is not for the lever only, but for a self-adjusting lever; he does not confine it to any particular form, but claims the chair constructed on this principle in whatever shape or form it may be.

Mr. Baron Parke.—It was proved by all the witnesses at the trial that a self-adjusting lever was never before applied to the construction of chairs. The claim of the patent is not to the principle, but to the combination of the principle and the machine—the application of the self-adjusting lever to the construction of a chair. His

A claim to an embodied principle extends to any form of part including such principle of action.

Claim to principle & to combination thereof with machine to which applied — said is not a claim to a bare principle.

summing up shews this: "I claim as my invention the application of a self-adjusting leverage to the back and seat of a chair." This is not claiming a principle.

The rest of the Court concurred.

Rule refused.

MINTER v. WILLIAMS.

In the Court of King's Bench.—Nov. 20, 1835.

THIS was an action brought by the plaintiff against the defendant for an infringement of a patent granted to the plaintiff. The fourth count of the declaration assigned as a breach that the defendant, without consent of the plaintiff, &c., did wrongfully and unjustly expose for sale divers, &c., chairs, which were intended to imitate and resemble, and did imitate and resemble, the said invention of the plaintiff. To this there was a general demurrer and joinder.

Mr. Sergeant Channell, in support of the demurrer, contended that, exposing to sale merely, was no violation of the patent. The King granted to the plaintiff and his representatives that they alone should "make, use, exercise, and vend" the invention, and that they shall have the whole profit and benefit of it; and the letters patent forbid any other person to "make, use, or put in practice" the invention, or to counterfeit or imitate it. Exposing to sale was not vending, nor did it come within any of the words of the granting or the prohibiting clauses. In statutes, where it was intended to make the exposing to sale a specific offence, express words were used for the purpose, as in the acts respecting copyright of books (8 Anne, c. 19; 12 Geo. II., c. 36; 15 Geo. III., c. 53); and the Acts for protecting property in prints and other works of art (8 Geo. II., c. 13; and 38 Geo. III., c. 71). So by the game laws, exposing to sale had been made a distinct offence. There was no ground, therefore, for contending that an exposure to sale was contemplated in a patent which made no specific mention of it. The Court would not deviate from plain rules of construction to extend prohibitions of such a kind.

The Learned Sergeant was stopped by the Court, and *Mr. J. Evans* was requested to shew how he could support the declaration, and the Learned Gentleman argued

that the count sufficiently shewed a violation of the patent.

Mr. Justice Patteson.—The precedents in such cases always charge a selling. Can you say that an exposing to sale is equivalent?

Mr. Evans urged that the word "sell" did not occur in the patent, that "vend" was the term used. Exposing to sale was vending. In "Johnson's Dictionary," the explanation of "to vend" was "to sell, to offer to sale;" in the "Dictionary of the French Academy" some of the interpretations of "*vendeur*" apply to an offering for sale. In "Ainsworth's Dictionary" "*vendo*" was derived from "*venum*" and "*do*," and was explained "to sell, or set to sale." This question, therefore, could not receive any illustration from statutes in which the word "vend" was not used. And taking the word as it is joined with others in this patent, "make, use, exercise, and vend his said invention," the natural and ordinary construction of it would be, sell, or offer for sale. As to the construction of patents generally, *Mr. Justice Holroyd*, then at the bar, said in argument, "Patents were formerly considered as injurious monopolies, and were, therefore, construed by the Courts with great strictness; but now, when a more liberal and just view of the subject prevails, they are properly considered as highly advantageous to the public, by holding out an encouragement to ingenious men to disclose their inventions."* And *Lord Eldon* said, in the case of *Cartwright v. Amatt*, and another,† in Easter Term, 1800, "that patents were to be considered as bargains between the inventors and the public, to be judged of on the principle of keeping good faith making a fair disclosure of the invention, and to be construed as other bargains." But further, an exposing to sale may come within the words "use" and "exercise." One use which a party makes, and advantage which he derives from an invention, is the reputation which he gains in his trade by offering the article for sale. According to the argument for the defendant, a man might exhibit the article in question for sale with impunity, if he only did it as an agent for some other person, or at least so long as no actual sale could be proved. And *Mr. Justice Patteson*, in *Jones v. Pearce*,‡ held that merely making the wheels, which was the subject of the patent, was an infringement.

* *Harmar v. Playne*, see p. 648, ante.

† See p. 173, ante.

‡ See p. 524, ante.

Mr. Justice Patteson.—There, no contest arose on this point; there, the declaration contained a count for making, and making without leave or licence of the patentee. It has hitherto been the practice of special pleaders, in declarations of this kind, to pursue the language of the patent in its granting or its prohibitory part. The word, indeed, generally used has been not “vend,” but “sell.” It cannot be doubted, notwithstanding the authorities referred to, that there is a great distinction between vending and exposing to sale. And if a new term is introduced in this patent, it is no injury to the patentee to say that he should follow the language so introduced, and use the word “vend” in his declaration. If he will adopt a different expression, and then come to the Court and maintain that it is an equivalent one, I think we ought not to encourage a speculation of that kind.

Mr. Justice Williams concurred.

Mr. Justice Coleridge.—The granting part of the patent authorizes the plaintiff exclusively to “make, use, exercise, and vend” his invention. The prohibitory part forbids all persons to “make, use, or put in practice the said invention,” or “counterfeit, imitate, or resemble the same,” or to make “any addition thereunto, or subtraction from the same, whereby to pretend himself or themselves the inventor or inventors,” without licence from the plaintiff. Then the count alleges that the defendant, without the plaintiff’s licence, exposed to sale divers chairs intended to imitate and resemble, and which did imitate and resemble, his invention. Do those words necessarily import the vending spoken of in the granting part of the patent? I certainly think not; because, even assuming that to vend may mean both a selling and an exposing to sale (though I rather think that it means the habit of selling and offering for sale), still those two meanings are not co-extensive. The former may include the latter; but a mere exposure to sale, *i. e.* with intent to sell, or for the purpose of selling, is not only not equivalent to a sale, but, as regards the patentee, may be attended with wholly different consequences. If we read the word “vend” as expressly inserted in the prohibitory part of the patent, we ought only to give it there the meaning which would effectuate the purpose of the patent, and the prevention of acts injurious to the patentee, with as little restraint on the subject as possible. It must be taken here that the defendant has only exposed to sale; that whatever may

Exposure to sale.
not the same thing
as a sale

have been his original purpose in so doing, or whatever motive has supervened, he has abstained from selling. Now, I cannot say that such a mere exposure to sale is necessarily injurious to the patentee; it may, on the contrary, be very beneficial; it is not, therefore, necessarily the vending which is exclusively granted to him. As to "using and exercising," those words cannot be fairly resorted to, when we find with them the word "vending," and that is passed by. But if they could, the argument would be the same; this might be an innocent using and exercising, and not so prohibited.

Lord Chief Justice Denman was absent.

Judgment for the defendant.

MINTER v. MOWER.

In the Court of King's Bench.—Easter Term, 1837.

THIS cause was tried at the London sittings, after Trinity Term, 1835, before *Lord Chief Justice Denman* and a special jury; it was an action brought by the plaintiff in the previous case of *Minter v. Wells and others*,* against the present defendant, for an infringement of his patent. The infringement complained of was similar to that made by Messrs. Wells and Co., and the plaintiff's evidence was the same as that in the former action; but in this case several witnesses were called to speak to the making of a chair by one Brown, before the date of the plaintiff's patent, such chair having several additions beyond the self-adjusting leverage claimed by the plaintiff, and which interfered with the action of such leverage.

The Learned Judge, at the trial, left it to the jury to say, under the evidence, whether Brown's chair would have been a chair with a self-adjusting leverage if those encumbrances had been away? Did those encumbrances prevent its being so, and was the principle of self-adjusting leverage discovered at the time that chair was made, or was it entirely a new discovery made by the plaintiff?

The Jury found "That the chair made by Brown would have acted so as to produce the equilibrium by a self-adjusting leverage, if the spring and other things had not been attached to the chair—that is, if it had not been for

* See p. 622, *ante*.

the encumbering of bad machinery; that Mr. Brown was the inventor, but that Mr. Brown was ignorant of the practical use it might be turned to; and that Mr. Minter was the author of the practical purposes of the thing, although Mr. Brown was the original inventor, but was ignorant of the principle of the machine; in fact, that the other machinery attached to Brown's chair prevented the self-adjusting leverage from producing equilibrium."

The Learned Judge, on this special finding, directed the Jury to find for the plaintiff, with liberty to the defendant to move for a nonsuit.

A rule *nisi* for a nonsuit was obtained in the following Term, and the rule now came on for argument.

The Attorney-General, (*Sir John Campbell*,) *Sir F. Pollock*, and *Mr. J. Evans* appeared for the plaintiff, and *Mr. Sergeant Talfourd* and *Mr. Godson* for the defendant.

On the part of the plaintiff it was argued that the patent was not taken out for the principle, but was expressly limited to the application of the principle; and that was the answer given by Lord Lyndhurst to the application for a nonsuit after a former trial relative to this patent. That also appeared by reference to the title and specification of the patent. It was true the Jury had found that Brown was the inventor of the principle, but they had also found expressly that he was ignorant of the application of it; and there could be no pretence for saying that Brown's chair did contain any such application. His chair did not allow the principle of self-adjusting leverage to operate of itself. Parts of the machinery had no other object than to prevent its operation. An improvement was not the less when caused by taking anything away that was useless, than when caused by adding something useful. It would, probably, be said, on the other side, that Brown had made the same application of the principle as the plaintiff, because, by taking away from Brown's chair the spring pad, &c., the chair would become the same as the plaintiff's. It would be just as reasonable for a man who had a block of marble to contend that it was a valuable piece of statuary, because, by taking away the outside by an able artist, it would become so. Even if the principle of a patent had been before applied, yet if the party applying it had done so only as an experiment, and afterwards abandoned it, the patent should be supported. It could not be contended that the plaintiff ever saw

Brown's chair; but even if he had, and if Brown had himself known of this application of the principle, still, never having publicly produced such application as that for which the patent was taken, the patent was, nevertheless, good; and the case would then fall within the principles of *Dollond's* case,* *Jones v. Pearce*,† and other well known cases.

For the defendant it was said the patent was not taken out by the plaintiff for an application of the self-adjusting leverage principle in the particular way in which he had employed it, but generally for any application of it. He virtually laid claim to the invention of all chairs in which that principle was anywhere to be found. If the patent were to be supported, Brown might be prevented making his own chair. The plaintiff might say the principle was the same as that which he claimed. The point really was whether the principle did not palpably exist in Brown's chair. If it did, which, indeed, was found by the jury, then the question was this: suppose a man to have invented *a*, *b*, can another afterwards have a patent for *a*, only?

Lord Chief Justice Denman.—You know not that *a*, could not produce a certain effect, which, however, *a*, could produce, and which was restricted in its operation by the addition of *b*.

It was urged for the defendant, in answer to his Lordship, that *b*, did not restrict the operation of *a*,—it only suspended it; that the self-adjusting leverage acted fully as soon as *b*, was withdrawn. In the case in the Exchequer the plaintiff succeeded, because this evidence was not introduced. The evidence which was wanting in that case was supplied here, so that the claim to novelty was now negatived. The patent ought to have been taken out for a new chair on leverage principles. *Dollond's* case was altogether distinct from this: there Dr. Hall had never produced his invention out of his study; and had Brown's chair been made a long period before, then *Jones v. Pearce*, *Lewis v. Davis*,‡ and *Lewis v. Marling*,§ might have been applicable. But now they were clearly not so, because the taking out of the patent was the sole cause why more of Brown's chairs were not sold.

Lord Chief Justice Denman.—We are of opinion that

* See p. 28, *ante*.

† See p. 524, *ante*.

‡ See p. 471, *ante*.

§ See p. 475, *ante*.

the making and selling of one chair affords, under the circumstances, a sufficient foundation for your argument.

The Court took time to consider their judgment.

Lord Chief Justice Denman delivered the judgment of the Court.—An action between the same parties has already been decided by the Court of Exchequer, in which the patent claimed by the plaintiff was deemed good and valid. But on the trial in this Court an entirely new fact was given in evidence, and affirmed by the verdict of the Jury—namely, that a chair, very closely resembling that made by the plaintiff's patent, had been made and sold before that patent was taken out. The words of the Jury were these:—"We are of opinion that Brown was the inventor of the machine, and found out the principle, but not the practical purpose to which it is now applied; we think that Minter (the plaintiff) made that discovery." This statement might not be fatal to the plaintiff's title if his invention were truly set forth in the specification, but the issue in this cause being simply whether the plaintiff did thereby particularly describe and ascertain the nature of the said invention, we find it needful to examine the terms of it. Now, the patent is taken out for "an improvement in the construction, making, or manufacturing of chairs." The method of making the machine, and the way in which it acts, are then fully described, without any mention of any of the means employed in Brown's chair. The specification thus concludes:—"What I claim as my invention is, the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair, as above described." Now, it was perfectly clear upon the evidence that this description applies to Brown's chair, though that was encumbered by some additional machinery. The specification, therefore, claimed more than the plaintiff had invented, and would have actually precluded Mr. Brown from continuing to make the same chair that he had made before the patentee's discovery. We are far from thinking that the patentee might not have established his title, by shewing that a part of Brown's chair could have effected that for which the whole was designed. But his claim is not for an improvement upon Brown's leverage, but for a leverage so described that the description comprehended Brown's.

We are, therefore, of opinion that the patent cannot be sustained, and a nonsuit must be entered.*

Rule absolute.

BOWMAN v. TAYLOR AND COLLINGE.

In the Court of King's Bench.—Michaelmas Term, 1834.

THIS was an action brought by the plaintiff on a deed. The declaration stated that by indenture, reciting that the plaintiff had invented certain improvements in the construction of looms, and had obtained letters patent for such invention, the plaintiff agreed with the defendants to let them use his invention in consideration of certain covenants; and the defendants, on their part, entered into those covenants. The breach complained of was the non-performance. To this the defendants pleaded—1st (after setting out the letters patent), that the supposed invention was not, nor is, a new invention; 2d, that the plaintiff was not the first or true inventor of the improvements in the said indenture and letters patent mentioned; 3d, that the plaintiff did not enrol a specification, within six months, fully describing the said invention. To which the plaintiff demurred generally.

In support of the demurrer it was argued that the defendant was estopped from alleging the matter stated in the pleas. He admitted, by the recital of his own indenture, as stated in the declaration, that the plaintiff invented improvements for which the letters patent were granted. He could not afterwards deny, as he attempted to do, that the invention was new, or that the plaintiff was the first inventor. The recital, taking the word "invented" in the popular acceptation, was directly contradictory to the pleas, and meant that he was the first inventor of a new inven-

* This, if sustained by any subsequent proceedings by *Sci. fa.*, would have rendered the patent void; but the plaintiff afterwards obtained very material evidence, and he proposed to proceed against some of the witnesses; but Mr. Attorney-General Campbell advised him that he would better gain his object of supporting his patent by bringing another action against any party found to be infringing. The plaintiff did not, however, discover any further infringements; and it appears that he subsequently enjoyed the exclusive right under his patent during the whole period granted. — W. C.

tion. The parties executing the indenture must, from the nature of the transaction, have understood the word "invented" in that sense. It was evidently so used in the recital of the patent as set out. And if the sense assigned by the plaintiff was that in which the parties to the indenture meant to use it, the estoppel was completely raised.

For the defendants, in support of the pleas, it was said that, from the general doctrine of estoppel, it was not to be collected with any certainty, from the old cases, that mere matter of recital does estop; for in those cases (the pleadings of which are not fully stated), that which is said to be recital is so mixed up with the operative parts of the deed, that the estoppel may, perhaps, be referable to those parts rather than to the matter of recital. Estoppels are so called, according to Lord Coke, "because a man's own act or acceptance stoppeth or closeth up his mouth to allege or plead the truth raised by implication." And in "*Co. Litt.*," 325 *b*, among the rules laid down respecting estoppels are these:—"2dly, That every estoppel because it concludeth a man to allege the truth, must be certain to every intent, and not be taken by argument or inference. 3dly, Every estoppel ought to be a precise affirmation of that which maketh the estoppel, and not to be spoken impersonally." . . . "Neither doth a recital conclude because it is no direct affirmation." Now the words relied upon in this case, to raise the estoppel, were, as stated in the declaration, "after reciting that the said plaintiff had invented certain improvements in the construction of looms for weaving." These words clearly fall within the rules laid down by Lord Coke, and were insufficient to create an estoppel. Not only were they mere recital, but they do not precisely and with certainty affirm what the defendant denied. The plaintiff was obliged to contend that the word "invented" implies that he was the first inventor, and of a new invention. But (as to the latter supposition) he might have invented the contrivance fifty years ago, and suffered it to be used by so many persons since, that the licence to use it now was of no benefit to the defendant. In that case the plaintiff would be the inventor, and yet the defendant would not be estopped from saying that the invention was not new.

Mr. Justice Patteson.—It is consistent with these pleas that the circumstance of the invention not being new, or

the plaintiff not being the first inventor, may have been confined to the knowledge of the defendant.

Mr. Justice Taunton.—Why are we to presume from the word “invented” that the inventing was many years ago? Although this is a case of estoppel, the intention of the parties to the deed must be collected from all the circumstances, and the words construed according to their plain and primary signification. It would be better to say that there should be no estoppels than to adopt all sorts of artifices and stratagems to evade the law which allows them. If, as we are required to suppose, all the parties knew the plaintiff not to be the first inventor, would they have used the words which appear in this deed?

In reply for the plaintiff, in support of the demurrer, it was contended that, according to the line of argument that had been taken, the pleas are no defence. If it be consistent with the word “invented,” in the recital of the deed, that the invention took place fifty years before the granting of the patent, or that some other person had also invented the same thing, and the pleas only deny the inventing to the extent of either of those interpretations, then it is not shown that the plaintiff had a bad title to the patent, or conveyed an imperfect one in the licence. The invention might be old, but never yet brought into public use. Another person might have invented the same thing, but have never made it known before the plaintiff took out his patent. The pleas, therefore, upon this view of them, would not necessarily contradict the declaration. Either the defendant was estopped by a specific recital, or his pleas were no answer to the action.

Lord Chief Justice Denman.—The plaintiff contends that these pleas are bad because the defendant is estopped by his deed from pleading them. It is answered, as to the first plea, that it is not inconsistent with the deed; but we think it is so, and if not, that it is no defence. If by saying that the supposed invention is not new, it is only meant that it was discovered by the plaintiff fifty years ago, that is no reason that he should not now have taken out a patent for it. So as to the second plea, that the plaintiff was not the first or true inventor—that averment either denies that he invented the contrivance, or denies that he was the sole inventor—the answer is the same as that just given. In the one case the defendant states what he is estopped from alleging, because it contradicts

the recital of his own deed, in the other, he gives no answer to the declaration. The third plea puts a fact in issue in direct contradiction to the recital of the deed. The doctrine of estoppel has been guarded with great strictness, not because the party enforcing it necessarily wishes to exclude the truth, for it is rather to be supposed that that is true which the opposite party has already recited under his hand and seal; but because the estoppel may exclude the truth. However, it is right that the construction of that which is to create an estoppel should be very strict. As to the doctrine laid down in "*Co. Litt.*," 352 *b*, that a recital doth not conclude because it is no direct affirmation, the authority of Lord Coke is a very great one, but still, if a party has by his deed recited a specific fact, though introduced by "Whereas," it seems to me impossible to say that he shall not be bound by his own assertion, so made under seal; this point was much considered in *Lainson, executor of Griffiths, v. Tremere*. (1 A. and E. 792; 3 N. and M. 603.) There could have been no case in which the Court would have been more strongly inclined to struggle against the doctrine of estoppel than that. I do not think it necessary, in deciding the present case, to enter into a minute examination of the authorities; they were fully considered on that occasion, and I think the case of *Hayne et al. v. Maltby*,* has been sufficiently distinguished from that before us.

Mr. Justice Taunton.—The law of estoppel is not so unjust, or absurd, as it has been too much the custom to represent. The principle is, that where a man has entered into a solemn engagement by deed, under his hand and seal, as to certain facts, he shall not be permitted to deny any matter which he has so asserted. The question here is, whether there is a matter so asserted by the defendant, under his hand and seal, that he shall not be permitted to deny it in pleading? It is said that the allegation in the deed is made by way of recital, but I do not see that a statement such as this is the less positive, because it is introduced by a "Whereas." Then the defendant has pleaded that the supposed invention in the declaration and letters patent mentioned, was not, nor is, a new invention. These words, "was not, nor is, a new invention," must be understood in the same sense as the

* See p. 113, *ante*.

words "had invented," in the recital of the deed set out in the declaration, and must refer to the time of granting the patent, and if the invention could not then be termed a new invention, it could not, I think, have been truly said in the deed that the plaintiff "had invented" the improvements, in the sense in which the deed uses the words. Then the plea directly negatives this deed, and comes within the rule, that a party shall not deny what he has asserted by his solemn instrument, under hand and seal. As to the case of *Hayne et al. v. Maltby*, I acknowledge, with unfeigned respect, that it does not become me to criticise the opinions of Judges so great and eminent as those who sat here when that case was decided, but it is not necessary to examine into the grounds of the judgments there delivered, because that case is different from the present. Here there is an express averment in the deed, that the plaintiff is the inventor of the improvements; there the articles of agreement averred nothing as to the originality of the invention, but merely stated that the plaintiffs were assignees of the patent, which they might have been, though the assignor was not the original inventor; and besides, though I do not rely much upon that, the Judges there differed in the reasons which they assigned for their judgments. It is sufficient, however, to say, without derogating from the authority of those Learned Judges, that that case is very distinguishable from the present. I am of opinion that the demurrers here are well grounded, and the plaintiff entitled to judgment.

Mr. Justice Patteson.—The third plea distinctly raises the question of estoppel; the first and second not so directly. The declaration sets out a recital in the deed between these parties, and it is necessary to consider the meaning of the words there used. It is said that in a case of estoppel nothing is to be taken by way of intendment. But before we come to the question of estoppel, we must examine the construction of the deed. The words are, "that the plaintiff had invented certain improvements," and had obtained His Majesty's Letters Patent, for the sole use of the said invention. This recital can only mean that he had invented new machinery, for which he had obtained the patent. If it meant that he was not the first inventor, it would be absurd. That being so, the pleas are, first, that the invention is not new; secondly, that the plaintiff is not the first inventor. Then if those

assertions are used in the same sense as the words "had invented" in the deed, they contain a direct denial of the matter there recited; if not used in the same sense, they are no answer to the declaration. The only authority cited for the proposition, that no estoppel can be by recital, is that from "*Co. Litt.*," 352 b. It is not denied, however, that there have been many cases in which matter of recital has been held to be an estoppel, but then it is said, that the recital in those cases has been inseparably mixed with the operative parts of the deed. But, if that be a test, the case is so here. The deed recites that the plaintiff has invented improvements, and obtained a patent for the invention, and then it proceeds to a demise of the very subject matter for which the patent is so granted. I cannot separate these things, and I therefore think the recital here comes within the description which *Mr. Wightman* has given of the law laid down by the old cases. The passage in Lord Coke must be taken with some little qualification, and *Lainson v. Tremere*, is a direct authority to shew that there may be an estoppel by matter of recital. In *Hayne et al. v. Maltby*, the recital contained no assertion of right in the plaintiffs, except as assignees, and the plea did not deny that. The case was not properly one of estoppel. How far the principle of eviction was applicable it is not now material to consider. In *Oldham v. Langmead*,* there cited, where the action was brought by the assignee of the patentee against the patentee, Lord Kenyon would not allow the latter to shew that the invention was not a new one against his own deed. As estoppels are mutual, that is a strong authority to shew that the assignee, if he had by deed admitted the invention to be new, would have been estopped from pleading the contrary. And the current of authorities, and particularly the late case of *Lainson v. Tremere*, shew that there may be an estoppel by recital in a deed. The plaintiff is entitled to judgment.

Mr. Justice Williams.—I am of the same opinion. A passage has been cited from Lord Coke, in which he says, that an estoppel must be certain, and not to be taken by argument or inference. But to give the words of this recital the sense ascribed to them by the plaintiff is no argument, it is only making use of the common

* 3 Term Reports, 439.

understanding of a phrase in the English language; when it is said, as in this deed, that a party had "invented" an improvement, it means that he was the inventor of it, so as to make that invention available under the law of patents; the words "had invented" must then, without any argument, mean that the contrary of which is answered in the first and second pleas. The question, therefore, upon these, is the same as upon the third plea, as to which there is no doubt. Then the only question is, whether a recital, not being a direct assertion, can estop the party who has made it? no decision has been cited to the contrary, and this Court lately determined in favour of such an estoppel, in *Lainson v. Tyemere*, where the doctrine of estoppels was carefully and fully considered, and where the estoppel in question depended as much upon a recital as that in the present case.

Judgment for the plaintiff.

COLLINGE v. BOWMAN.

In the Court of Chancery.—November 20th, 1834.

Mr. Bickersteth (with whom were *Mr. Teed* and *Mr. Bicheno*)—stated that this was a motion to restrain the defendant from proceeding in an action at law, or, if the Court should be of opinion that the action at law should proceed, to obtain liberty for the plaintiff to give evidence of the invalidity of a patent obtained by the defendant. In the year 1824, the plaintiff Collinge, and his partner, *Mr. Lancashire*, purchased from the defendant the right of using certain power-looms for weaving cloth of a particular description, with improvements alleged to have been invented by the defendant, and for which the defendant had obtained a patent; in consideration of a sum paid immediately and certain annual rents. The deed, by which this right was assigned to the plaintiff, contained a provision, that, in case the plaintiff should furnish evidence of any person using looms upon the principle of the defendant's invention, or infringing the patent, the defendant would bring an action, or cause an injunction to be obtained, to protect the patent. In December, 1825, the validity of the patent having been disputed, the

defendant entered into an agreement with the plaintiff, by which the plaintiff agreed to pay the sum of 202*l.*, then alleged to be payable in respect of the annual rents, and the defendant agreed to abandon all further claim upon the plaintiff. Eight years after the date of this agreement, the defendant brought an action against the plaintiff for the recovery of sums alleged to be due under the original contract. To that action, Collinge pleaded that there was no valid patent. Bowman demurred to the plea, and it was decided by the Court of King's Bench, that Collinge was prevented by the stipulation in the original contract from disputing the validity of the patent.* Collinge had, under these circumstances, been compelled to file a bill in equity, and the object of the present motion was either to restrain all proceedings at law on the part of Bowman, or, if those proceedings should continue, to prevent him from setting up that stipulation in the original contract, which had been held at law to prevent the plaintiff from availing himself of the invalidity of the patent.

Mr. Pemberton and *Mr. J. Parker*, for the defendant, —stated that, after many years employed in a series of most ingenious experiments, and after great expenditure of capital, the defendant had succeeded in making an improvement in the construction of power-looms, which had ultimately turned out to be of the greatest importance and value. He had assigned the right of using the machines to the plaintiff, and upon some disputes arising between the defendant and third parties, as to the validity of the patent, he had agreed not to call upon the plaintiff for the annual rents until he should establish the originality of the invention. That agreement was without consideration, and consequently invalid at law; and it was, moreover, not the foundation of the plaintiff's supposed equity, for the plaintiff had alleged in his bill that the original contract was fraudulent by reason of the defendant having represented himself as the inventor of machinery which he had never in fact invented. For that allegation there was not the slightest foundation, and it was in fact distinctly negatived by the defendant's answer. It had been determined by a Court of law that the plaintiff had no right, according to the

* See p. 654.

terms of the original contract, to dispute the validity of the patent, and this Court had no jurisdiction, upon a purely legal question, to interfere with the decision of the Court of King's Bench, by restraining or controlling the conduct of proceedings at law.

The Master of the Rolls.—The only question is, whether a case is made out for the interposition of a Court of equity, founded upon the parole contract of the defendant to discharge the plaintiff from the payment of the annual rents. Now, the plaintiff's bill is not framed for the purpose of carrying that parole agreement into effect; it charges fraud in the inception and execution of the original contract, and that fraud is distinctly denied by the defendant's answer. Whether the Court of King's Bench was or was not right in deciding that the plaintiff was estopped by the terms of the original contract from objecting to the validity of the patent, is not here the question. The question is, whether the subsequent agreement was of such a nature as to give the plaintiff an equity entitling him to the interposition of this Court. Now, that agreement was a mere voluntary engagement on the part of the defendant to forbear insisting upon his legal rights under the original contract, until he should have established his claim to the benefits of the patent; and it is not to be considered as a gratuitous abandonment of the rights which the law gave him.

This motion, therefore, must be refused.

BOWMAN v. ROSTRON AND OTHERS.

In the Court of King's Bench, before Lord Chief Justice Denman, Mr. Justice Littledale, Mr. Justice Patteson, and Mr. Justice Coleridge.—Jan. 29, 1835.

This was an action brought by the plaintiff against the defendants, on a covenant in a deed of license to use an invention secured by letters patent to the plaintiff. The form of the deed was the same as that in the previous case.* The declaration set out this deed. The defendant pleaded five pleas, but only two were relied on, and they were like pleas to those pleaded in the former case, and

* *Bowman v. Taylor*, ante, p. 654.

were, that the invention was not new, and that the patentee was not the first and true inventor.

The plaintiff in this instance, in place of demurring, joined issue on the pleas, and the cause came on for trial before *Lord Chief Justice Denman*, and a special jury; when the counterpart of the deed set forth in the declaration was put in by the plaintiff, and the learned Judge held that the recital in the deed precluded the defendants giving evidence on the two pleas mentioned. The defendants not insisting on the other three pleas, a verdict was entered for the plaintiff, with leave to the defendant to move for a new trial, on the grounds that the points raised by the pleas should have been left to the jury, and not decided by his Lordship.

A rule was obtained, according to the leave reserved, and the case now came on for argument. *Mr. Solicitor-General*, (*Sir William Follett*), and *Mr. Tomlinson*, for the plaintiff, and *Mr. Attorney-General*, (*Sir F. Pollock*), and *Mr. Wightman*, for the defendants. On the part of the plaintiff, it was contended that the pleas were bad, under the decision of the former case of *Bowman v. Taylor*, and therefore it would be useless to send the case again for trial; because, even supposing the defendants to obtain the verdict on both the issues, the Court would have to enter judgment for the plaintiff, notwithstanding the verdict.

The Court stopped the *Attorney-General*, who was contending that, whether the pleas were bad or good, issue had been joined, and a verdict of a jury must be had.

Lord Chief Justice Denman.—We are all clearly of opinion that there must be a new trial, a specific issue in fact having been joined, and evidence offered upon it at the trial, which was not received.

Rule absolute.

Both parties, by consent, had leave to amend the pleadings without costs.

DEROSNE v. FAIRRIE AND OTHERS.

*In the Court of Exchequer, Westminster, before the Lord Chief Baron,
(Lord Abinger,) and a special jury.—Feb. 14, 1835.*

This was an action for the infringement of a patent granted to the plaintiff, on the 29th September, 1830, for 'Certain improvements in extracting sugar, or syrup, from cane-juice and other substances.'*

* The specification was as follows :—

"To all to whom these presents shall come, &c., &c.—Now know ye, that in compliance with the said proviso, I, the said Charles Derosne, do hereby describe the manner in which the said invention is to be performed, by the following description thereof, (that is to say) :—

"The invention consists in a means of discolouring syrups of every description, by means of charcoal produced by the distillation of bituminous schistus alone, or mixed with animal charcoal, and even of animal charcoal alone. Whatever sort of charcoal it may be, it must be disposed on beds very thick, on a filter of any suitable form. The filter of itself has nothing particular, and does not form the object of the patent, because it is already known and used for other purposes, but till now it has not been employed for discolouring syrups. To obtain this discolouration, I put the charcoal in a case, in which I place, at a distance of about an inch from the bottom, a metallic diaphragm pierced with a great number of holes; I then place upon this diaphragm a clear and coarse linen, or woollen cloth, which exactly covers it; I then place upon this cloth a bed of charcoal of bituminous schistus alone, or mixed with animal charcoal, or animal charcoal alone. Whatever it may be, this charcoal ought to be in a state of division, in order that it may be well penetrated with the syrup which is intended to be filtered. Charcoal in fine powder would not be penetrated by the syrup. It has been found that the charcoal reduced to the size of fine gunpowder is very fit for this operation; if the grain is too large, the filtration would be operated too rapidly. I lightly press the charcoal, and then again place new beds of the same charcoal, which should likewise be pressed till it has come up to the height of fifteen or sixteen inches. It may be made higher if found necessary, or it may be less, but the discolouring effect will be always in proportion to the thickness of the bed of charcoal. When the charcoal is disposed to the proper thickness, it is to be covered with another metallic diaphragm, pierced likewise with holes, upon which is spread another clear linen cloth; it is upon this cloth on which is poured the syrup which is destined to be discoloured. The syrup ought then to form a bed of several inches thick, from four to eight, although there is no precise rule. For operating well in the filtration of syrups, the syrup ought to be clear before pouring it upon the filter, and ought to have undergone a first filtration by the known means, the point to be obtained by the filtration through the thick beds of charcoal is only the discolouration of syrups. The syrup to be filtered ought not to pass over the consistence, which is produced by two-thirds of sugar and one-third of

Sir John Campbell, Mr. Serjeant Ludlow, and Mr. Godson, were counsel for the plaintiff; the *Attorney-General (Sir F. Pollock)* and *Mr. Crowder* appeared for the defendants.

water; but it may be filtered at any less degree of consistency according to the result required. When the syrup is hot the filtration operates a great deal more rapidly. In operating on a great scale, a reservoir filled with syrup can furnish several filters at a time, by means of cock-balls placed in each filter. The first portion of syrup which passes through the filter is always the most discoloured, and by the time the colouring part combines itself with the charcoal, the effect of the last portion becomes less sensible. The portion of syrup, which preserves a part of its colour after its filtration, can be passed again upon another bed of charcoal in another filter, and by this means it may be obtained in a great degree of purification. Whatever the charcoal used, it is desirable to mix the charcoal with about one-sixth part of its weight of water before putting it in the filter. The place of that water is occupied by the syrup which penetrates the beds of charcoal, and then the water comes the first; it has a disagreeable and salted taste when the animal charcoal is used, the water after that comes mixed with a portion of syrup, and soon after it is displaced by the pure syrup.

“When the charcoal has been deprived of its colouring effect, pour water on the filter for dissolving or displacing the syrup which is mixed with the charcoal, the syrup then comes pure first, and after that mixed with more or less water, using as little as possible of water, it is convenient to suspend occasionally the effusion of water on the upper part of the filter, and to shut its cock. The syrup being heavier than the water gains the bottom of the filter, and runs first. The syrups made with raw sugar by this process can be made as clear as water. The molasses are deprived of their bad taste, and are converted into a good kind of syrups of a clear and yellow colour. The syrups from which it is desired to separate colouring matter, can be obtained directly from the juice of cane, or of beet-root, or from the saccharine matter produced by the action of sulphuric acid upon the farinaceous matters before these juices or liquids have been baked for extracting the sugar. The syrup may likewise be produced by the solution of all kinds of sugar, and of the products of inferior quality, which are obtained in sugar refining under the name of ‘bastards,’ and other sugars. The purpose of producing of syrups may be to sell them in such a state for the ordinary consumption, or to bake them for making sugar whiter than is obtained by the common process, or these whitened syrups may be used for discolouring the refined sugar, in making them filter through the loaves for replacing the use of the earth and water. The object of the invention being to obtain discoloured syrups by the means above described, this discolouration of syrups is always proportionate to their primitive colouration, and to the quantity of charcoal which is used. The carbonization of bituminous schistus has nothing particular; it is produced in close vessels, as is done for producing animal charcoal, only it is convenient, before the carbonization, to separate from the bituminous schistus the sulphurets of iron which are mixed with it. Instead of using the schistus, or animal charcoal of the size of gunpowder, it can be reduced to a powder still more fine mixed with sand; in this state a given

Mr. Godson stated the pleadings.

The declaration was in the usual form; and the defendant pleaded, first, Not guilty; second, That the invention was not new; third, That the specification was not sufficient.

Sir John Campbell addressed the jury for the plaintiff. The plaintiff is a foreigner of great science, who has devoted himself to improvements in manufactures, but more especially in the process of converting the juice of the cane into sugar, and also in the refining of sugar. The present case was one of great importance; no one can deny that the invention is of great value. The defendants in the case are respectable sugar refiners, and, no doubt, imagined that they were justified in using plaintiff's process; but it will be found they have been in error in so doing; and that, having infringed plaintiff's patent, they must either give up the use of the process, or pay the plaintiff a sum of money for a licence. The plaintiff's was an improvement in the separating of saccharine matter from all impurities and colour, and then to crystallize it, and bring it into the state in which we have it upon our tables. In this last branch, particularly, many discoveries have of late been made, by introducing currents of air into vessels so as to facilitate the process of crystallization. Great defects have hitherto been found in the manner in which the cane-juice, after it is in a fit state of crystallization, is to be separated from the impurities and colouring matter which adhere to it, while it is in the shape of raw sugar imported from the West Indies. To get rid of these impurities, various expedients have been resorted to. *Schroeder's* bags have been employed; the juice of the cane, after having been reduced into a liquid state, is made to pass through these bags, the bags of course retaining a considerable quantity of impurity: but still there was a great deal of impurity and colouring matter which was not got rid of; and to get rid of this, bullock's blood, whites of eggs, and other things were employed, which effected the object partially. At last, charcoal was thought of, and operated well for the

quantity of charcoal discolours better than powdered less fine, but the filtration is slower and more difficult to be regulated. After having tried this first method, I have given the preference to the other mode, but both of them are the object of the patent.—In witness whereof, &c.

"CHARLES DEROSNE."

purpose in view, from its chemical properties. In 1814, Messrs. Martineau took out a patent for the use of charcoal; but their method was to powder the charcoal, and throw it into the liquid. This was an improvement to a certain degree; but still there were various objections to it; there was a great deal of charcoal lost, the charcoal being mixed up with the syrup, there was a considerable quantity attached to the syrup; and the syrup was not drawn out in that pure state in which it ought to have been. The plaintiff found out a method of refining, which was made the subject of the patent, the validity of which is now to be tried. His plan is this:—not to precipitate the charcoal, not to put it in a powdered state, but to have a solid bed of charcoal. He takes a vessel, and two or three inches from the bottom, he places a cullender; above that is placed a bed of charcoal, and above that another cullender, and upon that a piece of cloth; and then everything is prepared for the introduction of the syrup. The charcoal must not be in a state of impalpable powder, for then the syrup would not pass through; it must be in a granulated state, very much like gunpowder. The syrup is introduced from a pipe, and penetrates through the whole, the cloths, the two beds of charcoal, and the cullenders, until it arrives at the bottom of the vessel, where it is drawn off in a perfectly pure state. The patent was taken out in September, 1830; it is applicable not only to the refinement of sugar in this country, but is also extremely useful for extracting the juice from the cane, and making it into raw sugar, in the West Indies. The first process in making sugar is, to bruise the cane and extract the juice, which is collected into a vessel, and refined to a certain degree. Now by passing that juice through these beds of charcoal before it has become sugar, the first benefit of this patent will arise, and a very fine sugar will be produced. It is beneficial, therefore, for making cane-juice into raw sugar.

The Lord Chief Baron.—You mean that the process you describe will complete the granulation of the sugar from the cane-juice?

Sir John Campbell.—It does not granulate; it refines only.

The Lord Chief Baron.—You still expose the juice to the action of the fire?

Sir John Campbell.—Yes, my Lord. The second grand process of this patent is, to refine the juice, and then to crystallize it. So great is the power of this process, that it makes most beautiful sugar from potatoes, from beet-root, or from molasses; so powerful is its effect in separating impurities from the cane-juice. The defendants established a manufactory in the year 1831; and although they apply it in a somewhat different manner, it is still clear they imitate the plaintiff's method; they refine sugar by passing the syrup through beds of charcoal. They have a manufactory on the first-floor; they have a vessel with the syrup, which first descends through Schroeder's bags, and there are a number of vessels, which are set in a horizontal position, which are still lower than the pipes in which the juice is received from Schroeder's bags; then there are pipes to introduce the syrup; they have eight or ten chambers, in which they have different vessels, each with a solid bed of charcoal in it, through which the syrup percolates. That they have made use of plaintiff's process will be proved beyond all manner of doubt. It will not be disputed that the plaintiff's method is one of the most useful inventions in the refinement of sugar that was ever invented. There is no doubt Martineau's patent was for the employment of charcoal, but in a different method. In Martineau's mode the charcoal was powdered and thrown into the syrup. There was formerly a great astuteness to pick holes in patents, but, in the present day, instead of there being any such disposition, the leaning is in favour of patentees, and the judges do what they can for the purpose of enabling men to reap the just reward of their own industry and ingenuity. Plaintiff's specification is not very distinctly drawn, it was drawn by a Frenchman, who was very imperfectly acquainted with the English language. For instance, the word "discoloured" is used for taking away colour; this, according to our language, was not exactly correct; but there can be no doubt that a person reading the specification would perfectly understand it.

The Lord Chief Baron.—I certainly understood in reading it, that he meant to discharge from colour. "*Décolore*" to discharge from colour.

The specification was put in and read. An objection was taken by *Mr. Crowder*, to the patent, on the alleged

ground of the specification not having been enrolled in time; but it was overruled by the *Lord Chief Baron*.

Sir John Campbell proceeded to call the witnesses for the plaintiff.

Frederick Bowman. [Before this witness was sworn, *Mr. Crowder* asked him whether he had not a licence under the patent; and, on being answered in the affirmative, objected to the competency of the witness, inasmuch as by a verdict for the defendant, he would be deprived of his share in the monopoly, which he held under the plaintiff. *Sir John Campbell*.—This verdict would not affect, and could not be given in evidence against, the witness: the patent may be still good, though this verdict were against the plaintiff. *The Lord Chief Baron*.—The witness might possibly be even benefitted by the destruction of the patent: but, at all events, the witness would not be affected by this verdict; in any controversy that arose between him and the plaintiff, it is obvious that the witness would not be benefitted by shewing that the verdict in this case passed against the defendant; and as to any other controversy, no action at all could be maintained against the witness, and he could maintain no action against any one else for the use of the invention, inasmuch as he has a mere licence.] The witness was then sworn and examined by *Mr. Sergeant Ludlow*.—Has been a sugar refiner for forty years, and paid much attention to all the new methods of refining sugar during that period; has used Derosne's process, as described in the specification; it consists in filtering the syrup through beds of granulated charcoal; never heard before this patent of filtering syrup through charcoal in a granulated state; formerly charcoal was used in an impalpable powder, mixed up with the syrup; the plaintiff's is a considerable improvement upon the old method. When the sugar was placed in the cauldron; a certain quantity of charcoal was poured into it, then the whole was poured through a filter, which was so constructed as to leave the charcoal in the filter, and allow the fine sugar to run from it. The filter that was used was flannel; the syrup did not pass through the charcoal, but the charcoal was put into the syrup. If Derosne's process had been used before, it must have come to witness's knowledge. Has tried the plaintiff's process in extracting sugar from molasses; it succeeded in doing

it; has never known that done before by any other process.

The Lord Chief Baron.—By what means do they extract the sugar from the molasses?

Witness.—By boiling in a cauldron and filtration: the plaintiff's process has the effect of relieving the syrup from the bad colour.

Cross-examined by the *Attorney-General*.—Has tried plaintiff's process every day for the last two years; has tried it with West India Muscovado sugar, and West India molasses. Common molasses might not possibly do, but has not tried it; it is not worth the trouble. Never tried it with cane-juice. Never used the process for extracting sugar from any other article than sugar. Has used both the animal and vegetable charcoal; gets the animal from carbonized bones; the vegetable from the softer woods. Has used bituminous schistus, furnished by the plaintiff; mixed it with the animal charcoal. The bituminous schistus was in a pulverized state; is not aware that it had ever been distilled; never distilled it himself, or was present at any distillation of it. The proportion of bituminous schistus used with the other charcoal was sometimes a third, a fourth, a sixth, or a tenth: does not use it at all now, because it is not so efficacious as the animal charcoal alone; bituminous schistus does not succeed so well alone as when animal charcoal is mixed with it: never used bituminous schistus alone; the largest proportion used with other charcoal is about a third, certainly not so much as half; in that proportion it did not succeed so well as animal charcoal; it suffers the liquid sugar to pass through too rapidly: that is a fault that would prevail in proportion to the largeness of the quantity of bituminous schistus used. Thinks the bituminous schistus would not answer so well as the animal charcoal alone; but has not tried it that way: not having the means of manufacturing the schistus, has used the charcoal alone. Does not know whether it is inconvenient to separate the sulphuret of iron from the schistus: the removal of all iron is favourable to the filtration of sugar: any proportion of iron would be exceedingly prejudicial.

Mr. Joseph Colling, examined by *Sir John Campbell*.—Has been a sugar refiner for upwards of twenty years in a very extensive way, and has observed the various im-

provements in refining sugar during that period. Has used plaintiff's patent; perfectly understands, from reading the specification, how the process is to be conducted; was not acquainted with the mode of refining sugar by making it pass through a bed of charcoal. Pulverized charcoal was formerly used, by throwing it into a pan, and passing it through a filter; but the sugar adhered so closely to the charcoal that it was difficult to separate them, and a great deal of sugar was lost, and there was a great expenditure of charcoal. Plaintiff's method is to pass the syrup through layers of charcoal forming beds, which was a decided improvement; it made much purer syrup, and, consequently, much finer sugar than the old method; it was also more economical. Has used both schistus and charcoal separately; has used schistus separately for nearly twelve months; it takes away a great deal of the colour of the sugar, and makes it much finer: has made much finer sugar by the schistus than by the granulated charcoal. The animal charcoal alone was a great improvement: never tried schistus and charcoal mixed together.

Cross-examined by *Mr. Crowder*.—Has used plaintiff's process for twelve months: the reason of witness giving it up, was, his not making sugar by the vacuum pans, but by the old method. Does not now make sugar for the home trade, but for export only. Plaintiff's process was beneficial for making fine sugar; but did not use it, because in the export trade witness could not get any more for fine sugar than for coarse. Has saved the charcoal again by re-burning it: if the charcoal could not be re-burnt, still it would not be so expensive as the old method. Could use the charcoal again without being re-burnt; it would not become unfit, but would be a great deal less fit: it would lose a great deal of the properties of charcoal: used it without re-burning for four, or five, or six months, but did not find it would be too expensive that way. Before witness found a person who would re-burn it, used always to pass water through after the syrup to get away the remains of the charcoal. When using the schistus alone, the liquor did not pass through too rapidly. Used the schistus alone for about twelve months; preferred the schistus alone; got the schistus from France. The bituminous schistus undergoes a process to take out the iron; but has not been

present at any distillation. Objected to Mr. Derosne about the iron in the schistus; but he told witness that the iron was taken from it. Has seen the process of preparing the schistus at work, but cannot tell how the iron is removed. Has never found any prejudice from the iron in the schistus.

Re-examined by *Sir John Campbell*.—Before witness was in the habit of re-burning the charcoal, has used plaintiff's process, and considered it absolutely beneficial. Knows from information the practice of extracting sugar from cane, and converting it into West India sugar; has not been in the West Indies: the process of passing the syrup through beds of charcoal might be beneficially employed in that stage of the process, between the obtaining the juice from the cane, and the first granulation: this is done to a very considerable extent at Porto Rico. This process might be very advantageously employed in purifying and discolouring cane-juice.

John Wolsey, examined by *Mr. Godson*.—Assists his father who is a sugar refiner; has been acquainted with the business of sugar refining for four years. Is acquainted with the old method of sugar refining, and also with the plaintiff's, which is, in many respects, an improvement on the old method.

Cross-examined by *Mr. Crowder*.—The old method was by mixing charcoal with the cane-juice, and then pouring it through a cloth. The charcoal forms a bed through which the syrup drops; the charcoal acts as a filter, and in some cases will form a bed of two or three inches thick: the liquor percolates through it, and comes out perfectly clear. Has never heard of plaintiff's method being used for anything else previously. Has been absent from England many years, and did not return till 1830. Has used plaintiff's bituminous schistus; it is a kind of slate, which is calcined in closed retorts; the particles which arise by calcination go over and form a distillation; the residuum is a charcoal: has not seen this distillation performed. Does not think he has used the schistus alone; did not very much approve of it; considered it bad: since the introduction of plaintiff's process, has used it with the animal charcoal alone. Used about 30% or 40% worth of schistus a month; only had one supply: its discolouring power is not so great as that of charcoal. Plaintiff has certain mines in France

which give this schistus, and he manufactures and sells it. Has been in the West Indies; knows the process of extracting sugar from cane-juice: the canes are put into a mill and bruised; the juice runs from the exterior into a large cistern; it is then heated to a certain degree, the scum taken off, and then it is boiled two or three times: the process is different on different estates. Has always understood the word "refining" to refer to the making of refined sugar from Muscovado: refining is in fact purifying sugar: it must be a second crystallization in order to constitute a "refining." The "extracting" of sugar is to obtain, by the processes that are adopted, the saccharine particles that are in the cane.

Re-examined by *Sir John Campbell*.—The process of converting Muscovado sugar into what is called "loaf sugar" is called "refining" it; thinks that this patent might be used in the first process of "extracting" in the West Indies.

Charles Marriott, examined by *Mr. Sergeant Ludlow*.—Is a merchant; has been in the West Indies, in Trinidad, and has seen the process of making sugar repeatedly; has seen the plaintiff's process applied between the first extraction of the juice of the cane and its becoming sugar, and it answers what it professes to do—that of purifying and taking the colour out of the juice, but it would not do there, on account of the boilers not being adapted to carry it into effect: the process improves the quality of the sugar.

Cross-examined by *Mr. Crowder*.—When the juice comes out of the cane, in the first instance, it is very little more than water, it is very weak; it is then boiled twice, and when it gets to the third boiler it is called syrup; it then gets to the consistency of syrup. Has seen the plaintiff's process applied to other articles. There were four coppers; it was taken out of the third copper, when the juice was at a certain consistency by the saccharometer; has tried the experiment of plaintiff's patent and seen others try it in Grenada; has taken it out of the third copper; tried it in Trinidad upon his own estate; did not continue it because the boilers were not adapted to boil the syrup afterwards so clarified; they were iron boilers which were not adapted to boiling sugar; the fire was too intense, there being only one fire for four or five boilers: you cannot regulate the fire; found it burnt the

syrup; the sugar was better than it otherwise would have been, but still the advantage was not so great as to make it worth while going on. In Grenada it was much more successful; believes it was done there in the same sort of boilers as his own, but does not know whether they were of copper or not; does not know of any boilers being made for the purpose of using plaintiff's process there: it depends upon the value of sugar whether it can be beneficially applied there. The process in Grenada was in the same manner from the third boiler, in the state that is called syrup. Syrup may be reduced to sugar by evaporation. Muscovado sugar after being dissolved again is called syrup. Has never seen this process applied to any thing but cane juice, except upon one occasion, where they did not understand it. Has heard that the filtering process has been applied to oil and other substances; knows nothing about schistus, and very little about the process of refining.

Re-examined by *Sir John Campbell*.—Has no doubt that boilers could be constructed in the West Indies, adapted to the plaintiff's process, and that in such cases it would improve the quality of the sugar very much.

The Lord Chief Baron.—Whether it would be worth while to go to the expense you do not say?

Witness.—That might depend upon the demand for sugar and the price of it: thirty or forty years ago it would have been very valuable.

The Lord Chief Baron.—There might be some of the islands where they could get plenty of wood for making charcoal.

Examined by the *Lord Chief Baron*.—It does not become sugar until after it is granulated. The reason of passing the syrup through several boilers is to save fuel to a certain extent; and also it would not do to expose the cane juice to a very considerable fire. All the boilers are constantly kept open and scummed, so that the process of emptying and replenishing is constantly going on.

Pierre Angilbert, examined by *Sir John Campbell*.—Is a Frenchman. Plaintiff's process is used extensively in France for refining sugar: it has been found so very beneficial that every body adopts it. Has seen it applied to the extracting of the syrup from potatoes; has brought over a sample of the syrup, at that time not expecting a law suit concerning the patent.

Before the plaintiff's patent they could not bring the extracting of sugar from potatoes into anything like use; does not know whether the syrup from potatoes could be made into refined sugar; it was thought better to sell it in its rough state. By this process sugar can be made from beet-root. "Refining" is melting sugar over again.

Cross-examined by *Mr. Crowder*.—Is agent to the plaintiff. Has been in France continually among sugar refiners: has been with plaintiff for about thirty years. Knows of Mr. Benjamin Constant's experiment. At that time there was a great scarcity of sugar in France, and Bonaparte offered a reward for improvements in the manufacture of it from other articles besides cane-juice: Mr. Derosne discovered the method of making it from beet-root, by the use of charcoal: Mr. Benjamin Constant went into Mr. Derosne's manufactory, saw the invention, and brought it over to England. Plaintiff was the first who applied animal charcoal at all: animal charcoal was not used before plaintiff's patent. The mixing up of charcoal with the cane-juice was also the discovery of plaintiff, in 1812: he published it, because Bonaparte offered a reward for any one that would discover such a thing. Has been with plaintiff in England five years.

Joseph Marriage, examined by *Mr. Godson*.—Lives at Chelmsford; is one of the managers of the establishment there for obtaining sugar from beet-root. Has applied plaintiff's improvement and found it beneficial.

Cross-examined by *Mr. Crowder*.—Has used plaintiff's process to clarify and purify the syrup before it became sugar. The mode of obtaining the sugar from beet-root is pretty much the same as that of cane-juice. Employs plaintiff's process after it has been reduced to the consistency of syrup: the object was to clear it from impurities; did not apply it to any other purpose.

The Lord Chief Baron.—What beet-root did you use?

Witness.—The white beet-root, the same that is brought from France; there is not sufficient saccharine matter in the red.

Dr. Faraday, examined by *Sir John Campbell*.—Has attended very much to chemistry for many years, and, amongst other things, to the refining of sugar generally. Has read the specification of plaintiff's patent; believes it to be new; is not aware of the mode being used prior to

the date of the plaintiff's patent, but has not sought for precedents to establish that point; as far as his knowledge and experience extends, does not know of its ever having been applied before. Knows the mode that was before adopted, of using powdered charcoal, and throwing it into the syrup. Is not competent to say the plaintiff's is an improvement; has not seen the two practised with a view to the ultimate result. The extracting of sugar is a process not completed until the granulation takes place. Thinks he should be able to go through the process from reading the specification; it is badly worded, but the sense is clear.

Cross-examined by *Mr. Crowder*.—Considers all the steps taken during the process of making sugar to be part of the process of "extracting" sugar. The juice is boiled to separate the water, which witness considers to be a part of the process of extracting sugar: all that tends to separate, on the one hand, what is wanted, and, on the other hand, what is not wanted, considers to be part of the process of extraction. If the object was to separate the water from the sugar, and for no other object, should say it was for the extracting of the sugar. As a scientific man, if speaking of the process, should say, "extracting the water from the sugar;" but sugar-bakers do not refine so much. Has made no experiments on the subject, and knew nothing of the case, until very lately. Knows what bituminous schistus is, and also what is called the "distillation" of it; the distillation is to allow the volatile matter to pass off, retaining the charcoal. Should have no difficulty in understanding what plaintiff means in his specification on this subject; but it is badly described: a refiner of sugar would have no difficulty in understanding it: should be very much surprised if he did not. With the bituminous schistus that witness is acquainted with, it would be a process of some difficulty to remove all the sulphuret of iron: all would depend upon the way in which the sulphurets were associated with the schistus: to remove all the sulphuret, in most cases, would be very difficult.

Re-examined by *Sir John Campbell*.—Bituminous schistus varies very much in its qualities, as brought from different mines; and there is a great variation in the quality of the sulphuret of iron.

Mr Richard Phillips, examined by *Mr Sergeant Ludlow*.—Is Lecturer on Chemistry at St. Thomas's

Hospital. Has read plaintiff's specification: thinks he understands how the process is to be carried into effect. Believes plaintiff's process to be new. Understands by "extracting," the extracting of the sugar from the water. Any thing that tends to separate the impurities and colour from sugar is a part of the process of extraction.

Cross-examined by the *Attorney-General*.—Has not tried this plan. Has read the specification, and thinks he understands it, although it is badly drawn.

The Lord Chief Baron.—In your absence, Mr. Attorney-General, we came to this point; and as I considered it arose on the face of the specification, there is no occasion to go further into evidence upon it; because if the title of the patent is not consistent with what is declared to be the invention in the specification, that is an objection arising on the face of the instrument; and whether it be so or not, the words pretty clearly indicate it.

Inconsistency between title of patent & description in objection on the face of the instrument

The Attorney-General.—There are one or two points which I wish to appear in evidence. (*To the witness.*) The invention is for "Certain improvements in extracting sugar or syrup from the cane-juice and other substances containing sugar, and in refining sugar and syrup;"* does not that cover the mode of obtaining sugar from beet-root?

Witness.—It does; under the words "other substances." Does not know that this mode of filtering was applied before to oils; has heard it mentioned in Court, but did not know it before; knows nothing of the distillation of the bituminous schistus; does not know whether any of the processes mentioned in the specification are preferable the one to the other; has seen bituminous schistus but does not remember seeing any sulphuret of iron in it; should think it would not be very easy to separate the sulphuret of iron from the schistus; should think the process of extracting was to be applied after the boiling. Syrup can be taken the moment it is expressed, and without being subjected to any operation whatever.

Dr. Turner, examined by *Mr. Godson*.—Is Professor of Chemistry in the London University; has seen plaintiff's process once; has seen the title of the specification

* This was the title given to the invention in the patent.

of the patent; should understand it as part of the process of extracting sugar; understands "extracting" as applied to the obtaining of sugar.

Examined by *The Lord Chief Baron*.—Thinks that the colouring is in a measure acquired in the process of boiling; has no practical experience to enable him to state whether any of the colouring matter is found immediately after the cane is bruised, but should have no doubt of some colouring matter being present there.

The use of the plaintiff's process was here admitted to be useful for refining, by the defendants' counsel.

The Attorney-General.—There is frequently an anxiety in a patentee to take out a patent in the largest possible way. The patent of the plaintiff is for two different things—the extracting of sugar and the refining of the sugar so extracted; the real object of the invention being merely to filter the sugar so extracted, and to take out the colouring matter from it, and render it fit for the market as fine loaf sugar. That is the only object of the invention: but in order to spread as wide a net as possible, it is made to include the extracting of sugar from cane-juice and other substances. The title of the patent would have covered any process whatever, by which you could obtain sugar from beet-root.

The Lord Chief Baron.—It would cover new mills to grind the cane, if you take the words of the patent; they are large enough.

The Attorney-General.—We may expect to see some day a patent taken out for "certain improvements in matters that may be improved, parts of which invention may be applicable to other purposes." I once saw a title of a patent that was very nearly as general as that. It is notorious that the object is to disguise, under the generality of the title, what is the real object of the party, so that he may escape, as much as possible, the effect of caveats for any particular invention. The title of this patent clearly imports that there is one mode of extracting sugar, and another mode of refining it. The specification and the title are completely at variance; for it is expressly stated in the specification, "The point to be obtained by the filtration through the thick beds of charcoal is only the discolouration of syrups." The single object is the discolouration of syrups: he has presented

no improvement in the "extracting of sugar or syrup from cane-juice and other substances:" as the title is double, for extracting sugar and refining sugar. If a patentee finds that a particular substance will answer a particular purpose, and that that substance may be beneficially employed so as to entitle him to a patent, he puts in all substances, *ejusdem generis*, knowing they will not answer as well, or never having tried them,—the object being, that if any other person should find out some other process, equally available, he may be able to say, "That is an infringement of my patent." The distilled bituminous schistus never should have found a place here at all.

The Lord Chief Baron.—I think there is sufficient evidence that bituminous schistus has been used with advantage.

The Attorney-General.—Unless the patentee can prove that it is a matter of perfect indifference in what proportion these matters are mingled, this specification is bad. The patentee says, "I know that animal charcoal will answer the purpose; it already does; I will form a thick bed of this animal charcoal. Well, now possibly some persons may discover a mode of making other substances that contain charcoal, just as useful as animal charcoal;" and therefore, without letting the public know how it may be beneficially used, he puts in "bituminous schistus," and talks of "distillation," not stating how it is to be performed; and speaks of "separating it from the sulphurets of iron," which Mr. Faraday says is very difficult to perform, and Mr. Phillips says is not easy; and does not tell you in what manner it is to be performed.

The Lord Chief Baron.—It does not appear in proof that it was ever performed in England by any process; and it appears, also, in evidence, that the only place from which it is procured is France.

The Attorney-General.—The putting in substances, *ejusdem generis*, though perfectly legitimate when their use has been ascertained, and when the public are guided in the proportions, is not quite fair when the public is left entirely in the dark on these points. It is in evidence that the bituminous schistus, which the plaintiff mentions in his specification, did not answer,—it let the syrup through too rapidly. If the patent had been for "an improvement in the process of making sugar, consisting chiefly or en-

tirely in the refinement of sugar," then there is no doubt that it would have done. But it is plain, from the statement of the specification, that there is a process to be gone through before this filtration can be used; he says, "for operating well in the filtration of syrups, the syrup ought to be clear before pouring it upon the filter, and ought to have undergone a first filtration by the known means." Some process of boiling must have preceded the use of this instrument.

The Lord Chief Baron.—You must take the whole of the specification together, and if it appears that he meant to apply it only to a state of syrup gone through the process of inspissation to make the syrup, then it shows that that part of the specification which I stated to the witness must be taken as nonsense, or as a clumsy mode of expressing that he meant it to be after the syrup had gone through the process subsequent to the extraction of cane-juice. I have no doubt but that was his meaning, but it is clumsily expressed.

Sir John Campbell.—I believe your Lordship has exactly translated the meaning of the title of the patent.

The Attorney-General.—The plaintiff has made out no case, in point of fact, that the specification can enable any person to know in what manner the object of the patent is to be performed. This is proved by evidence of the plaintiff. There are different sorts of schistus, or different modes of distillation, or different modes of treating that article, and the public is not aware which is the mode, and a man may lose hundreds of pounds before he may derive any benefit from this invention. If the gentlemen of the jury are of that opinion, the defendant is clearly entitled to their verdict. It is an evil affecting all persons connected with business, and the arts, and trade, if patents are to be taken out in the large, loose, sweeping manner in which we continually meet with them; they are specified so as to prevent the individuals who are to avail themselves of the invention having a distinct and specific knowledge of what is to be done. There is a case recorded (I believe of Lord Cochrane) where a patent was taken out "for lighting cities and towns." Who would have dreamt that that was a patent for an improved lamp, and nothing more. So if a man find he has a new mode of obtaining sulphuric acid from iron by burning it; and if he enumerate all the substances in the

country in which sulphur is to be found, in order to prevent any one, by some other process, turning them to account, to throw a net wide enough to include every thing,—the law will not allow that. If the patentee refers in a specification to a number of substances, and they are not all equally applicable, he is bound to say so: if they require admixture, to tell the proportions: if one will not do alone, to say so, or if applicable to one particular purpose to mention it. He has no right to leave the public in a sea of experiments at the end of his patent, before they can make it available. It is not sufficient to put into the box a chemist, as eminent as Mr. Faraday or Mr. Phillips, and say he has read the specification and understands it. No doubt they do; it is to take the colour from syrup, and make the sugar whiter and better. Bituminous schistus is some earthy matter containing bitumen; and “schistus” is nothing but a general geological term for the property of splitting. Whatever splits is called schistus, which merely implies that they split. All common sea coal that will split, is bituminous schistus. If Mr. Derosne is proprietor of mines, and has a particular mode of extracting the substance that will answer, that is not generally applicable to all bituminous schistus, then the patent is bad; for he keeps a part of the process to himself, being in possession of the slate mine, and the mode of distilling it. Nobody has explained how the bituminous schistus is to be distilled: there is not the slightest intimation how the sulphurets of iron are to be expelled, or how the plaintiff accomplished it himself. No man has a right to take out a patent and say, “Here is a patent, take out a licence, and tie yourself up for fourteen years; and at the end of that time, when you want to use bituminous schistus, none will do but mine; and the process I have not thought fit to explain.” If we find the plaintiff sells an article which sometimes answers and sometimes does not, how are we to account for that, but upon the supposition that there is a difference in the article. It is said that it may be done by bituminous schistus alone, or animal charcoal alone, or by both; but he does not tell us the proportion. Whatever sort of charcoal may be used, it must be disposed on beds very thick, on a filter of any suitable form. It would have been of use to tell how thick the filters are to be, because “thick” is a term so

entirely of comparison; one person might think a few inches, another several feet.

(The learned counsel commented upon the specification at considerable length, but called no witnesses.)

The Lord Chief Baron then proceeded to sum up the case.—Gentlemen of the jury; this case has occupied a very considerable time; it involves a question of great importance to the plaintiff, and of some importance to the public. The plaintiff complains of an infringement of his patent, which he took out for a new invention of improving the process of manufacturing sugar. I do not think it necessary to trouble you with any objections that arise on the face of the patent and the specification, because as they are matters of construction, and therefore matters of law, they cannot in any way be assisted by your verdict, unless, indeed, terms of art are explained by evidence, and then it would be for you to consider whether the evidence produced satisfies you that the terms of art were used in the sense put upon them. I do not find that any thing of that sort necessarily arises in this case; and, therefore, those parts of the case that appear to me to confine themselves to the mere comparison of the specification with the patent, or the specification itself, one part with the other, so as to render it more or less obscure; I think it better to reserve that for future consideration, on another occasion, whenever the discussion shall give rise to further consideration, than trouble you with it at this moment. I propose to state to you what it is you are called upon to decide, the issues joined between the parties, and what appears to be the points for consideration.

The plaintiff complains that his patent has been infringed by the defendants—the defendants plead the general issue.

It appears that the plaintiff has proved sufficiently that the patent has been infringed, by the admission of the defendants; they cannot sustain their defence upon that plea; therefore you may lay out of your consideration all question as to the infringement of the patent.

The next plea is, that the plaintiff was not, at the time of passing the said letters patent, the first and true inventor of the said improvements. Now you have no evidence given you that any other person before the plaintiff's patent, ever applied in use the particular mode of filtering syrup, which this patent was intended to introduce; and

in the absence of such evidence you will be warranted in finding on the second issue also for the plaintiff.

But the great question turns upon the third and fourth issues. The third issue puts it upon the plaintiff to show, that he has enrolled a specification "setting forth a particular description, and ascertaining the nature of his said invention, and in what manner the same might be performed, in manner and form hereinafter mentioned." The fourth issue is much to the same purpose, except with respect to the question of time, which has been disposed of. So that the question you have to try is this, whether upon the evidence in the case you feel satisfied that certain parts of the specification to which your attention has been called by the counsel who last addressed you, appear to you to be supported by evidence, in such a manner as to satisfy you, that the plaintiff has given in a full and clear account, sufficiently clear for the purpose of practice, of the invention for which his patent is taken out.

Now I will not trouble you with any observations arising from a comparison of one part of the specification with another: it must be admitted that it is obscure. The gentleman who composed it was not an Englishman; he uses many words in a sense which no Englishman would have done. He uses the word "baked," evidently for boiling; and he uses the word "discoloration," for discharge from colour. The common understanding in which an Englishman would use the word, would be, that he means to stain, and not to discharge from colour. However, all that is conceded. One would not be disposed, from any obscure word in the specification, which might be interpreted in favour of the plaintiff taking it altogether, to deprive him of his patent.

But the specific points called to your attention, and which I thought was the only important point worthy of your consideration, is this, is the bituminous schistus, which forms part of the mode of filtration, in your judgment, according to the evidence you have heard, sufficient to satisfy you that the plaintiff meant fairly to communicate, and has fairly communicated, satisfactorily to the world engaged in this sort of trade, what his object was? *He has addressed to the world*
For you see, that the law requires, that a man, as the price *of the monopoly which he obtains for fourteen years for*
any invention, shall enable the public, after that monopoly *to use that is to*
competent person

has ceased, to have a full and distinct account of the whole of that invention, that the public may have the benefit of it ; you are paying to genius a price for the discovery that his genius makes—that price being fourteen years monopoly. But if the genius does not in return tell you what it is, he has the fourteen years given him for nothing. It has been established by law, that in the specification he must give in, a full and true disclosure of the nature of his said invention, so that the rest of mankind may be able to profit by it when the monopoly ceases, and if he leaves any part of his invention in a state of obscurity, if he leaves any uncertainty about it, and does not give good definite directions how to perform it, he loses the advantages of his patent. Now, it is perfectly true, that in setting forth his specification he has thought fit to say, that his “invention consists in a means of discolouring syrups of every description, by means of charcoal produced by the distillation of bituminous schistus alone, or mixed with animal charcoal, or even of animal charcoal alone.” Now, in that description, undoubtedly, the bituminous schistus forms a very important part of it ; it is a question whether he does not put it first ; it is first in order of his statement, and the words “animal charcoal alone,” come after the word “even ;” as if he meant to say, that it might even be done by that, though he prefers bituminous schistus alone, or a mixture of the two, or of animal charcoal alone. At all events he gives the public to understand, that the charcoal which might be used for the purpose was to be procured from the distillation of bituminous schistus. Now you and I, gentlemen, and other persons, who do not pretend to be acquainted with particular sciences, the subjects of particular professions, like Mr. Faraday, might be very well excused for not knowing what is the meaning of bituminous schistus. *Prima facie* you would not object to this specification because that word must be explained by some men of art. Now you learn from Mr. Faraday, who is indeed a man of considerable acquirements and great talents, and who has often been examined in Courts of justice upon such subjects, that the bituminous schistuses with which he is acquainted are very numerous, that they vary very much in the quantity of the sulphuret of iron which they contain, and that he does not think you could get rid of the sulphuret of

iron by any process he is acquainted with. I think the other chemist, Mr. Phillips, though not in such plain terms as Mr. Faraday, stated something to the same effect—that he did not know any process by which sulphuret of iron could be entirely expelled from bituminous schistus. No question was put to Mr. Turner on the subject, therefore you must infer that he would agree with the other men of science upon that question. Then, gentlemen, you certainly have upon the evidence these facts:—that the bituminous schistus, from which he says the charcoal was to be made by distillation (he means by calcination no doubt) is of various substances, containing various degrees of sulphuret of iron. Plaintiff says the sulphuret of iron ought to be expelled; he does not state which of the various bituminous schistus he makes use of; he may make use of any one of them. He does not state any process of expelling the sulphuret of iron. Now if any person should suppose that any bituminous schistus would answer the purpose, and were to take one mixed with sulphuret of iron; being unacquainted with the nature of it, and should attempt to distil it for the purpose of producing charcoal, he might involve himself in considerable expense, and his object would be frustrated. On the other hand, if you should find it in evidence, that there is no bituminous schistus that is proved to be used, except that which plaintiff himself supplies; and if you should think from that, that it was not improbable he contemplated the use of his own, that might be a reason for his being so general, that no party could find in England the sort which would answer the purpose, he might apply to the plaintiff who manufactured it abroad to get it from him. But if such was his intention, that would destroy the patent.

Now I beg your attention to the evidence upon the subject. The question for your consideration is a question of fact, whether you are satisfied upon the subject of this bituminous schistus. Now the first witness, Mr. Bowman, says, “he has used vegetable charcoal.” That is not mentioned in the specification at all. “He has used bituminous schistus; presumes it was distilled; had it from the plaintiff; never saw it done.” That implies that the plaintiff had done it. “Used either a third, or a fourth, or a half, or a tenth; it is a matter of indifference what the proportion is, because we find it is not so good

as animal charcoal when used alone. The largest proportion I ever used was one third, under which proportion it did not succeed so well as animal charcoal alone; it let the syrup through too rapidly; having no means of manufacturing the bituminous schistus, but having the means of manufacturing the charcoal, I have used the latter more frequently, and found it a great deal more advantageous." On the subject of the advantage of the use of it, and the proportions it ought to be mixed in, I do not think so much turns as you might infer from the argument of the learned counsel who last addressed you, because the specification undoubtedly means to say, that you might use it entire, or mixed, or with animal charcoal alone: you might use the whole of these substances, or mix them indifferently, as you might find it convenient: that is the meaning of the specification, and I do not find that Mr. Bowman's evidence is inconsistent with that. But it is a remarkable fact that he obtained his from the plaintiff, and never saw it done.

Then we come to the next witness, Mr. Colling. He also says, "I am aware that bituminous schistus undergoes a process of distillation; how the sulphuret of iron is got rid of I don't know; I have found no prejudice arising from the presence of the iron in the schistus. I obtained my schistus from the plaintiff at Paris." Therefore the second witness says that he obtained it from the plaintiff at Paris. It is very true he differs from the first witness, in this respect; the first witness says that he found the schistus not so good as animal charcoal; but yet it answered: the other says he found it better. Now it has been said, "It is not at all impossible, that if both their statements were true, it might arise from a difference in the nature of the bituminous schistus that was distilled; the plaintiff might have exported, upon one occasion, bituminous schistus produced by his process, of a superior quality to that at another time; and that fact would make the evidence of the witness consistent." If that be so, there is great force in the argument, that there is an obscurity and uncertainty in the mode of declaring what this bituminous schistus is, because he has not specified the particular sort that ought to be used in preference to the other sorts. But the witnesses may be reconciled in another way, because Colling says he found, by pressing the bituminous schistus closer, he could make

the percolation of the liquid less rapid than it was before. It is true Mr. Bowman was not asked that question ; but one would think it very obvious to a man acquainted with the trade, whether that pressure or not would produce a too rapid percolation of the liquid : he says "in whatever degree, he always found the percolation of the syrup too rapid to answer the purpose so well ; and, therefore he resorted to the use of the charcoal alone." It is for you to say, if it be a mere want of manual operation which one's own common prudence would suggest, that is no objection ; if the difference be in the use of the object itself, difference in the value of the object itself for the purpose employed, that appears to me a very strong argument to show that the gentleman has not set forth in this specification all that he ought to have set forth.

Specimen of slate used as a manual operation no objection to a specimen but if it makes a difference in the value of the object of invention it is an objection

Then I come to the next witness, Wolsey. He says, "He used the bituminous schistus procured from the plaintiff: it is a kind of slate, calcined in a closed retort, and the residuum is a charcoal. I do not much approve of it: I have since used animal charcoal alone. Mr. Derosne, the plaintiff, lives at Paris ; he has slate mines of his own, and manufactures the schistus (that is the charcoal) from the slate." Now here is another instance of a gentleman using it, who says he did not approve of it. He says he purchased it from the plaintiff also. It is a remarkable fact, that you have not any evidence of any one instance of schistus being used, except what the plaintiff has imported from Paris. Marriage,* although he stated he used the plaintiff's method, did not state whether he used schistus, or where he got it from.

Then there is the evidence of Angilbert, the Frenchman, the agent of Mr. Derosne. He says, that "this invention is in general use throughout France."

Now this is the evidence you have to consider on the part of the plaintiff, which it does strike me is the only part which it is necessary for me to read to you ; because if on this part of the case you are satisfied that the plaintiff has made out a case, which, in your judgment sets up the specification, I then think the rest of the case is with the plaintiff. But this part I think is doubtful ; not on the face of the specification alone—I wish to be well understood—the doubt does not arise on reading the specification. I

* His Lordship recalled this witness, to put a question to him, before he commenced his summing up, but he had left the Court.

presume you would suppose that any chemist would know what bituminous schistus meant; that it was some substance which when distilled, would produce charcoal; therefore on the face of the specification there is no objection so far as that goes. But when you consider the evidence, when you find by the evidence that there are various sorts of bituminous schistus, and that there is none of them known, at least as far as appears by the plaintiff's case, in England, capable of producing it without the sulphuret of iron, by any process known to experienced chemists (it may be known in France, there may be various substances there capable of producing it by calcination), then certainly in that case my opinion is that you ought to find a verdict for the defendant. Now, on the evidence, there is nothing to show that bituminous schistus has been discovered of this sort. If the plaintiff has it in France, it is very likely he might suppose that it might be found any where capable of performing the object: it is his misfortune that he has not inquired whether this country produces the same: in that case he might have stated that such schistus might be imported from France, that would have made the patent good; but he made that no part of his specification. It is for you to say upon the evidence you have heard from the plaintiff, combined with any knowledge you may have upon the subject yourselves. Supposing you are of opinion that there are various bituminous schistuses, which might not equally answer the purpose, and that those not being set forth in the specification, it is probable that any person using the specification would be obliged to have recourse to the plaintiff to procure it; if you are of that opinion on the evidence, then I think the defendants are entitled to your verdict. If you are also of opinion upon the evidence that bituminous schistus will not do—one witness says he disapproves of it, and another found it not to answer; the difficulty of the case is to ascertain whether they have not used the bituminous schistus found here, or whether they have not got it from a different part.

Sir John Campbell.—Whether the bituminous schistus was to be had in England, was a point not raised during the trial; our attention was not directed to it.

The Lord Chief Baron.—I cannot help that; Mr. Faraday proved that there were numerous substances in

which there was bituminous schistus, but that the sulphuret of iron could not be expelled by any process he was acquainted with.

Sir John Campbell.—I understand that Mr. Marriage has been found; and if he had been called he would have told you that cinders would have done.

The Lord Chief Baron.—It is a pity you did not put that in your specification, that cinders would have done. I intended to ask him whether he got his schistus from the plaintiff.

The jury retired for about fifty minutes, and brought in a verdict for the plaintiff.

The Lord Chief Baron (to the jury).—You are satisfied upon the evidence that the bituminous schistus obtained in England might be properly adopted?

Foreman of the Jury.—That seems to be the opinion of the jury.

DEROSNE v. FAIRRIE AND OTHERS.

In the Court of Exchequer, before the Lord Chief Baron (Abinger), Mr. Baron Parke, Mr. Baron Bolland, and Mr. Baron Alderson.—4th June, 1835.

Mr. Attorney-General (Campbell), Mr. Sergeant Ludlow, and Mr. Godson, for the plaintiff, Sir F. Pollock, Sir W. Follett, and Mr. Crowder, for the defendants.

This case was tried before the Lord Chief Baron and a special jury, when a verdict was found for the plaintiff. In the following term *Sir F. Pollock* obtained a rule for a new trial, which now came on for argument.

On behalf of the plaintiff it was contended that there was on this record no plea that the title was bad, and that, under the plea alleging the insufficiency of the specification, the defendants were not at liberty to attack the title. Secondly, that the title was good in all its points, for that the extraction of sugar was not complete until the syrup had granulated. Thirdly, as to the application of the invention to cane-juice before it was boiled, it was answered that it was never intended to be so applied until it was boiled and became syrup, and in that state it was beneficial and useful. Fourthly, as to the bituminous schistus. The schistus was mechanically, not chemically, combined with the iron, and therefore the iron could not be prejudicial to or affect the sugar; and, further, the iron

could be removed by the simple mechanical operation of breaking the schistus, and taking out the iron which was generally found in it. It would, therefore, have been improper to have given a description of so easy an operation.

Sir F. Pollock, in support of the rule, was stopped by the Court.

The Lord Chief Baron.—The doubt which the Court has had is, as to what rule they should pronounce in this case as to the costs. Certainly, my impression at the trial was, that I ought to have nonsuited the plaintiff, but I was very anxious to avoid the possibility of withdrawing anything from the jury, even a scintilla of evidence, in order to avert the necessity of another trial, which, in a case like the present, must be attended with great expence to the parties. But I am free to own, that, although I refused to nonsuit the plaintiff after the close of his case, I felt very strongly that there really was no evidence to go to the jury. I felt that it was incumbent on the plaintiff, after the evidence given by his own witnesses, to have proved that bituminous schistus, as found in this country, might be used without detriment, after having been exposed to the process of distillation which he describes, but without removing the iron. I well remember that *Sir F. Pollock* had taken the objection very strongly, that it had been proved in the cause that the presence of iron was disadvantageous, and admitted to be disadvantageous—not in the qualified sense in which it has been urged on this occasion, *viz.*, that, although it rendered the process less efficacious, it did not deprive it of all efficacy—but that the presence of it was positively injurious. I so understand it, and I must do the defendants' counsel the justice of saying, that such was my understanding of it on the representation of both sides. With that understanding, I felt that the plaintiff was bound either to have shewn that there was some known process of extracting it, which he did not, or to have shewn that there was some bituminous schistus which might be found in England, with the iron not entirely extracted, that yet might be used with effect; and on looking to my notes I could not find any such evidence. Mr. Derosne's agent had been examined at great length, and gave his evidence in rather an irregular manner, so as to make it very difficult to set it down on my notes ;

and from the short note I took of that witness's evidence, I felt some doubt in my own mind whether he had not stated some fact which had escaped me at the time, which, on further investigation, might supply that defect in some minute degree; and, I must own, it was more with that impression that I left the case to the jury, than on any conviction of my own mind that the plaintiff had made out a case; and then I wrote the note which I have read, that if I was wrong in leaving it to the jury, the defendants' counsel should have the benefit of it, on moving for a nonsuit. Now, that being the case, I cannot but feel that the defendants are placed in the situation, by my having so acted, of being compelled to make this motion. If I had nonsuited the plaintiff, he then must have applied to the Court, and suggested any misunderstanding that had arisen at the trial, for the purpose of obtaining a new trial; or he might have stated that he himself was surprised by the objection, and could have answered it by evidence if he had been fully aware of it; that is, that had the plaintiff's counsel been aware that the defendants meant to make this sort of objection—that bituminous schistus, such as is found in England, could not be used with advantage in this process, he would have had abundant evidence to rebut it. If I remember rightly, that was suggested at the close of my summing up. Now the question is, on what terms we ought to allow this inquiry; and it appears to me, that as the defendants were entitled to a nonsuit, and would be entitled to a nonsuit if it were not for that suggestion, they ought not to pay the costs of a new trial. Now, a question has arisen, whether, if there was any real misunderstanding, the plaintiff ought to pay the costs of the new trial? It is plain, that if I had nonsuited the plaintiff, and he had applied to set aside the nonsuit, and there had been nothing irregular or improper in the conduct of the defendants, he would have had to pay the costs of the new trial. The reason the Court is induced to grant a new trial is, to have the matter more fully explained as to what is the use of the bituminous schistus; and what was the real effect of it in its operation; and, that being the case, the Court is disposed to pronounce this rule. I will first state the rule the Court is disposed to pronounce, and will then state some reasons why we have come to this judgment. The rule will be—that the verdict should be set aside, that a

new trial should be had, and that the costs of the new trial shall be costs in the cause, if the defendants obtain a verdict finally; but shall not be costs in the cause, if the plaintiff obtains a verdict. The new trial is granted for the plaintiff's benefit, to enable him to make out the case which he failed in doing at the first trial. We think it right, however, to dispose of some of the objections that have been made. One objection to the plaintiff's specification is rested on the ground that it does not set forth that double process which was to be expected from the title of the patent. It is unnecessary now to solve that difficulty, as the Court doubts whether or not, since the new rules of pleading, that objection is fairly let in by the present pleas. The objection is, that the plea states the plaintiff's specification to be insufficient, whereas it is said, that, supposing we think it inadequate, it is sufficient to describe the invention that he really had made, even if it be not sufficient to describe the second branch of the invention set forth in this patent; and the defendants may avail themselves of the objection, that the plaintiff has taken out a patent too large for his invention, by putting in an additional plea, in a different form from that stated on this record. We do not think the question necessarily arises at present, or that it calls for an ultimate decision, because we think, on consideration, that the double process on both the branches of the invention mentioned in the patent, are sufficiently described in the specification. I have come to that conclusion, in consequence of the discussion on this motion. The patent purports to be a patent for an improvement in extracting sugar from the cane-juice, as well as the refining of sugar subsequently. Now, it appears on the evidence, that the only attempt to use it, when applied to the cane-juice before it was boiled, failed; but I think, on the investigation to-day, it does appear, though it is very awkwardly expressed, that he did mean in his specification to embrace both branches of the title of his invention, in this way—I mean to apply my invention to the refining of sugar, by melting the Muscovado (or granulated) sugar, and bringing it into syrup, and then applying the invention to it, or by applying it in the process of extracting the sugar from the cane-juice, before it is baked and made into syrup. *Mr. Godson* has given a satisfactory solution of that obscure passage in his client's specification, and rendered it more satisfactory, by the

words immediately following, because he presented in opposition the case of extracting the sugar from the cane-juice, and of refining the sugar after it has been boiled and manufactured into Muscovado sugar; and, therefore, construing it with that view, it appears to me that he meant to use the word "extract" in the sense in which the chemists, who were called as witnesses, said they understood it, and that he meant also to extract sugar or syrup from the juice, before it is baked and made sugar; but it is in evidence, that it is made into syrup before it comes into that degree of baking, by the action of fire, as to make it granulate: it is made into syrup after it has derived a certain consistency, by passing one, two, or three coppers, but it must pass through two others before it is in a state to granulate and to be made sugar; therefore I think the expression "extract" may be fairly understood to mean the process to be applied with advantage to the extracting of syrup from cane-juice, before it arrives at that consistency at which granulation takes place, so as to make it into sugar; and with that explanation, I think the objection that was made is removed. Supposing the specification is good in other respects, as compared with the evidence on the face of it, it must be understood to be a specification of both branches of that invention, and, if so, that objection is removed. I think, also, the word "improvements" was relied on, as being in the plural number; but that is of no consequence, because he may mean that every part of his process is to be treated as an improvement. It is a phrase that may be reconciled to the fact, because syrup, in the proper meaning of the word, is not extracted from the cane-juice, any more than sugar is; but, in the process of what is called extracting sugar from the cane-juice, it is made into syrup, and therefore it is an improvement in extracting sugar, *à fortiori*, it may be said to be an improvement in extracting syrup. Upon the main point, however, that respecting the bituminous schistus, nothing that I have heard has removed my original impression, that there was no evidence to shew that this process, carried on with bituminous schistus combined with any iron whatsoever, would answer at all. The plaintiff himself has declared, that in that bituminous schistus which he himself furnished, the whole of the iron was extracted; and it appears that it was admitted by the counsel that the presence of iron

would not only be disadvantageous, but injurious. Thus, then, it appearing by the evidence, that, in all the various forms in which the article exists in this country, sulphuret of iron is found, and the witnesses not describing any known process by which it can be extracted, it appears to me that the plaintiff ought to prove one of two things,—either that the sulphuret of iron in bituminous schistus is not so absolutely detrimental as to make its presence disadvantageous to the process, (in which case this patent would be good,) or that the process of extracting the iron from it is so simple and well known, that a man may be able to accomplish it with ease. As the bituminous schistus which was procured and used was exclusively that which was furnished by the plaintiff, not in its original state, but after it had undergone distillation, and been made into charcoal in a foreign country, and as, in that stage of its preparation, it could not be discovered by examining it, whether it was made from one substance or another (the residuum of the distillation of almost every matter, vegetable as well as animal, being a charcoal, mixed more or less with other things), then there is only the plaintiff's statement to prove that the substance which was furnished by him and used, was charcoal of bituminous schistus. It appeared, also, that he had declared to one of the witnesses that he had extracted all the iron from the substance so sent, and that it also underwent another process. I am therefore of opinion, that, without considering whether or not the patent would be avoided by the process requiring the use of means to extract the iron from the bituminous schistus, which were kept secret by the patentee, he has not shewn, in this case, that what he has described in the patent could be used as so described without injury to the matter going through the process. Under all these circumstances, I think that the plaintiff ought to have given some evidence to shew that bituminous schistus, in the state in which it is found and known in England, could be used in this process with advantage; and, as he has not done that, the defendant is entitled to a nonsuit; but, at the same time, as it is alleged that the plaintiff may supply the defect of proof as to the schistus on a new trial, by other evidence, we are desirous that the patent, if a good one, should not be affected by our judgment, and think it right to direct a new trial, on the terms which have been stated.

Mr. Baron Parke.—I entirely agree with my *Lord Abinger*, in respect to the construction of the patent. We cannot, on the face of this patent, say that, comparing it with the specification, it is void. The specification does, on the whole, truly describe the nature of the invention, as declared in the patent, nor does there appear to be sufficient obscurity in the clause with reference to the baking, to avoid the patent on that ground. But it seems to me to have been clearly the duty of the plaintiff to have done one of two things—viz., either to have shewn that bituminous schistus, with the admixture of sulphuret of iron, as it is known to exist in England, would answer the purpose beneficially, or that the sulphuret could be removed by any practical man, so as to give no colour to the syrup. Now, I have certainly some doubt whether there was not evidence for the jury, that a practical man, acquainted with the subject, might, without much difficulty, effect that removal to such an extent, that it might not be sufficient to give any colour to the sugar, and, therefore, not be prejudicial at all; but as my *Lord Abinger*, upon the evidence before him at the trial, seems to think otherwise upon this last point, I entirely concur with him as to the terms on which I think a new trial ought to be granted.

In a specimen the whole full of clear of the invention (in apparent description of only apparent) in no pages will not initiate.

Mr. Baron Bolland.—I perfectly agree with the view that has been taken of this matter by the Court. The objection made was, that the title of this patent was too large for the specification. Now, had that appeared to be the fact, I should have felt myself bound by that rule of law which I have always understood to prevail in cases of this sort, viz., that where a title is set out in the patent, it is the bounden duty of the patentee to specify the whole set out in that title; but it appears to me, for the reasons that have been already given by my *Lord Abinger*, that the objection to the title is sufficiently removed. Very early in the argument, it appeared to me that justice could not be done in this case, unless we granted a new trial, because, on the Judge's notes, it appeared that no evidence had been given by the plaintiff that bituminous schistus, procured from whatever place in which that substance could be found, would answer the purpose intended. The only evidence which the plaintiff gave, that bituminous schistus, when used in the process described, produced the desired effect, applied to a pulverized substance which the witnesses had purchased from the plaintiff at Paris.

Specimen bound to substantiate the whole of an invention commensurate with the terms of the title.

Now, if the plaintiff had gone on to shew that that substance was bituminous schistus, to which nothing had been done, but that it produced the effect in its natural state, a great portion of the difficulty would have been removed; but, that not being proved, it was left in doubt whether all bituminous schistus would produce the effect attributed to it in the patent; without doubt, the onus of that proof lay on the plaintiff. An authority, if wanting, may be found in the judgment of *Mr. Justice Buller*, in the very early case of *Turner v. Winter*;^{*} and that very Learned Judge added a most extensive acquaintance with the subject of patent right to that knowledge of law, in which he was at least equal to any person who, before or since his time, has occupied a seat on the bench. I will, therefore, advert more particularly to his judgment in that case, in order to adapt its terms in application to the present. That patent had been taken out for producing a yellow colour, to be applied in the process of painting in oil or in water. The patentee attributed to this patent also another quality, viz., making white lead, and separating the mineral alkali from common salt; and *Mr. Justice Buller*, in giving judgment, said, "I do not agree with the counsel who have argued against the rule, in saying that it was not necessary for the plaintiff to give any evidence to show what the invention was, and that the proof that the specification was improper lay on the defendants; for I hold that a plaintiff must give some evidence to shew what his invention was, unless the other side admit that it has been tried and succeeds. But whenever the patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must shew in what his invention consists, and that he produced the effect proposed by the patent in the manner specified. Slight evidence of this on his part is sufficient, and it is then incumbent on the defendant to falsify the specification." In this case, the plaintiff contents himself by merely saying that bituminous schistus will answer the purpose intended; but he ought, in my opinion, to have gone farther, and shewn that any bituminous schistus fairly procured, either from the chemists in the habit of selling that article, or in any other way, would have also sufficed for the purpose intended; whereas he has merely shewn that the preparation made by himself in Paris, (with the ingredients of

^{*} Ante, p. 105.

which we are not at all acquainted, any farther than that he told the witness that the iron had been taken out of it,) produced the desired effect; he was bound to have informed the public how the iron was removed from the schistus, or to shew that its presence was immaterial. On these grounds, as well as for the reasons given by my *Lord Chief Baron*, I think a new trial ought to be had.

Mr. Baron Alderson.—I quite agree with the view the rest of the Court have taken in this case. The first objection to the validity of the patent arises upon the ground that the title of the patent is too general, and has been, I think, already answered satisfactorily by the Court; and I certainly entertain considerable doubts whether it is open to be taken on these pleadings. With respect to the other point, the question arises on the validity of the specification. Now, *shewn must state one or more methods of accomplishing invention.* a specification must state one or more methods which can be followed for the purpose of accomplishing and carrying into effect the invention. One of the methods stated in this case is the application of a filter composed of charcoal, formed by the distillation or carbonization of bituminous schistus. It must, therefore, be shewn that the purpose will be accomplished by following that method. It appears, too, that there is some little doubt entertained, whether, if iron be present in the charcoal formed from the carbonization of bituminous schistus, the experiment of depriving sugar of colour in this particular manner, does not altogether fail. With respect to that, on reading the notes, I should have entertained some doubt, but it is much more competent for my *Lord Chief Baron* to decide, than for a Judge who was not present at the trial. Certainly, if any admission was made, that the presence of iron would be a detriment to the operation, without confining that admission to its being a less perfect mode of exhibiting the experiment than otherwise would be the case, that, undoubtedly, would be a ground for a nonsuit. But had it been shewn, either that bituminous schistus, deprived of iron, could be made by a process known to ordinary chemists of skill, or that it was a substance capable of being ordinarily purchased in the market as an article of commerce, it would have been unnecessary to have shewn the operation of separating the iron from it: if its presence in the bituminous schistus was a positive detriment to the process of depriving the sugar of colour—then, indeed, the patent would fail.

Under all the circumstances, I quite concur in the view the rest of the Court have taken, as well as in the terms on which this case ought to go down to another jury.

Rule for a new trial accordingly.

On this judgment, the plaintiff amended his specification, by entering a disclaimer and memorandum of alteration, by which the defects in the specification and in the title were removed.* The patent was not further questioned.

* The disclaimer was in the following words:—

“In the matter of a patent granted to Charles Derosne, late of Leicester-square, in the County of Middlesex, but now of Paris, in the Kingdom of France, Gentleman, for his invention of ‘certain improvements in extracting sugar or syrup from cane-juice, and other substances containing sugar, and in refining sugar and syrup;’ bearing date at Westminster, the twenty-ninth day of September, in the first year of the reign of His present Majesty, King William the Fourth.

“Disclaimer and memorandum of alterations proposed to be entered by the said Charles Derosne, with the Clerk of the Patents in England, pursuant to an Act passed in the fifth and sixth year of his present Majesty’s reign, entitled, ‘An Act to amend the law, touching Letters Patent for Inventions.’

“I, the said Charles Derosne, do desire, that instead of the words of the title of the said patent, being for the invention of ‘certain improvements in extracting sugar, or syrups, from cane-juice, and other substances containing sugar, and in refining sugar and syrups;’ the following words be substituted in lieu thereof, viz.,—the invention of ‘a certain improvement, or certain improvements, to be used in the course of the process of extracting sugar or syrup from cane-juice, and other substances containing sugar; and also to be used in the course of the process of refining sugar and syrup, for the purpose, in either case, of removing the colour from, or whitening and purifying such sugars or syrups respectively.’

“And I further desire, that instead of the following words in the specification, viz., ‘The invention consists in the means of discolouring syrups of every description by means of charcoal, produced by the distillation of bituminous schistus alone, or mixed with animal charcoal, and even of animal charcoal alone. Whatever sort of charcoal it may be, it must be disposed on beds very thick, on a filter of any suitable form. The filter of itself has nothing particular, and does not form the object of the patent, because it is already known and used for other purposes, but, till now, it has not been employed for discolouring syrups. To obtain this discolouration, I put the charcoal in a case, in which I place, at a distance of about an inch from the bottom, a metallic diaphragm, pierced with a great number of holes. I then place upon this diaphragm, a clear and coarse linen or woollen cloth, which exactly covers it; I then place upon this cloth a bed of charcoal, of bituminous schistus alone, or mixed with animal charcoal, or animal charcoal alone. Whatever it may be, this charcoal ought to be in a state of division, in order that it may be well penetrated with the syrup, which is intended to be filtered; charcoal in fine powder would not be penetrated by the syrup. It has been found that the charcoal, reduced

IN RE DEROSNE'S PATENT.

In the Privy Council.—1844

The Solicitor-General (Sir F. Theigier, with whom was Mr. Godson) was heard on application for an extension of

to the size of fine gunpowder, is very fit for this operation; if the grain is too large, the filtration would be operated too rapidly. I lightly press the charcoal, and then again place new beds of the same charcoal, which should likewise be pressed till it has come up to the height of fifteen or sixteen inches. It may be made higher, if found necessary, or it may be less, but the discolouring effect will be always in proportion to the thickness of the bed of charcoal; when the charcoal is disposed to the proper thickness, it is to be covered with another metallic diaphragm, pierced likewise with holes, upon which is spread another clear linen cloth; it is upon this cloth on which is poured the syrup which is destined to be discoloured. The syrup ought then to form a bed of several inches thick, from four to eight, although there is no precise rule. For operating well in the filtration of syrups, the syrup ought to be clear before pouring it upon the filter, and ought to have undergone a first filtration by the known means. The point to be obtained by the filtration through the thick beds of charcoal, is only the discolouration of syrups. The syrup to be filtered out, ought not to pass over the consistency which is produced by two-thirds of sugar and one-third of water, but it may be filtered at any less degree of consistency, according to the result required. When the syrup is hot, the filtration operates a great deal more rapidly. In operating on a great scale, a reservoir filled with syrup can furnish several filters at a time, by means of cock balls placed in each filter. The first portion of syrup which passes through the filter is always the most discoloured, and by the time the colouring part combines itself with the charcoal, the effect of the last portion becomes less sensible. The portion of syrups which preserves a part of its colour after its filtration, can be passed again upon another bed of charcoal, in another filter, and by this means it may be obtained in a great degree of purification. Whatever the charcoal used, it is desirable to mix the charcoal with about one-sixth part of its weight of water, before putting it in the filter. The place of that water is occupied by the syrup, which penetrates the beds of charcoal, and then the water comes the first. It has a disagreeable and salted taste when the animal charcoal is used, the water after that comes with a mixed portion of syrup, and soon after it is displaced by the pure syrup. When the charcoal has been deprived of its colouring effect, pour water on the filter, for dissolving or displacing the syrup which is mixed with the charcoal; the syrup then comes pure first, and after that mixed with more or less water, using as little as possible of water. It is convenient to suspend occasionally the effusion of water on the upper part of the filter, and to shut its cock. The syrup being heavier than the water, gains the bottom of the filter, and runs first. The syrups made with raw sugar, by this process can be made as clear as water, the molasses are deprived of their bad taste, and are converted into a good kind of syrups of a clear and yellow colour. The syrups from which it is desired to separate colouring matter, can be obtained directly from the juice of

the petitioner's patent for an invention of considerable importance in the refinement of sugar. *Mr. Waddington*

sane, or of beet-root, or from the saccharine matter produced by the action of sulphuric acid upon the farinaceous matters, before these juices or liquids have been baked for extracting the sugar. The syrup may likewise be produced by the solution of all kinds of sugar, and of the products of inferior quality, which are obtained in sugar refining under the name of bastards, and other sugars. The purpose of producing of syrups, may be to sell them in such a state for the ordinary consumption, or to bake them for making sugar whiter than is obtained by the common process; or these whitened syrups may be used for discolouring the refined sugar, in making them filter through the loaves, for replacing the use of the earth and water; the object of the invention being to obtain discoloured syrups by the means above described. This discolouration of syrups is always proportionate to their primitive colouration, and to the quantity of charcoal which is used. The combination of bituminous schistus has nothing particular; it is produced in closed vessels, as is done for producing animal charcoal, only it is convenient before the combination, to separate from the bituminous schistus, the sulphurets of iron which are mixed with it. Instead of using schistus, or animal charcoal, of the size of gunpowder, it can be reduced to a powder still more fine, mixed with sand; in this state a given quantity of charcoal discolours better than powdered less fine, but the filtration is slower, and more difficult to be regulated. After having tried this first method, I have given the preference to the other mode, but both of them are the objects of the patent, the following words be substituted in lieu thereof,—'The invention consists in a means of removing the colour from, or whitening and purifying syrups of every description, by means of filtration through beds of granulated animal charcoal, for effecting which object, the charcoal must be disposed in beds, in a filter or case of any suitable form. The filter or case (which encloses the charcoal) of itself has nothing particular, and does not form the object of the patent, because it is already known, and used for other purposes; but, till now, it has not been employed for whitening and purifying syrups. To obtain the object of this invention, I place at the distance of about an inch from the bottom of the case, a diaphragm pierced with a great number of holes; I then place upon this diaphragm a clear and coarse linen or woollen cloth, which exactly covers it; I then place upon this cloth a bed of animal charcoal; this charcoal must be in a state of division, in order that it may be well penetrated with the syrup which is intended to be filtered. Charcoal in the state of an impalpable powder would not be penetrated by the syrup. It has been found that the charcoal reduced to the ordinary size of gunpowder, is very fit for this operation; (if the grain is too large, the filtration would operate too rapidly.) I lightly press the charcoal, and then again place new beds of it, which should likewise be pressed till the charcoal has come up to the height of fifteen or sixteen inches. It may be made higher, if found necessary, or it may be less, but the whitening and purifying effect will be always in proportion to the thickness of the bed of charcoal. When the charcoal is disposed of to the proper thickness, it is to be covered with another diaphragm, pierced likewise with holes, upon which is spread a clear linen cloth, and it is upon this cloth that

appeared on behalf of the Crown, in the place of the *Attorney-General*, who was prevented from attending.

the syrup is poured which is destined to be whitened and purified. The syrup ought then to form a bed of several inches thick, from four to eight inches, although there is no precise rule. For operating well, the syrup must be clear before pouring it upon the filter, and ought to have undergone a first filtration by the usual known means. The syrup to be filtered ought not to exceed the thickness or consistency which is produced by two-thirds of sugar and one-third of water, but it may be filtered at any greater degree of fluidity according to the result required. When the syrup is hot the filtration operates a great deal more rapidly. In operating on a great scale, a reservoir filled with syrup can furnish several filters at a time, by means of cock balls placed in each filter. The first portion of syrup which passes through the beds of charcoal is always the whitest, and as the colouring part of the syrup combines itself with the charcoal, the power of whitening and purifying the syrups becomes less, until it wholly ceases. The portion of syrups which preserves a part of its colour after its filtration, can be passed again upon another bed of charcoal in another filter, and by this means it may be obtained in a great degree of purification. It is desirable to mix the charcoal with about one-sixth part of its weight of water, before putting it in the filter. The place of that water is occupied by the syrup, which penetrates the beds of charcoal, and then the water comes the first; it has a disagreeable and salted taste when new or fresh animal charcoal is used, the water after that comes with a mixed portion of syrup, and soon after it is displaced by the pure syrup. When the charcoal has been deprived of its power of whitening and purifying the sugar or syrup, pour water on the bed or beds of charcoal for dissolving or displacing the syrup which is mixed with the charcoal; the syrup then comes pure first, and after that mixed with more or less water, using as little as possible of water. It is convenient to suspend occasionally the effusion of water on the upper part of the filter, and to shut its cock. The molasses by this process are deprived of their bad taste, and are converted into good kinds of syrups of a clear and yellow colour. This process of filtration may be applied with advantage to the juices of cane and beet-root, immediately after the juice has passed through the first tache, and before evaporation, and may be also applied to those juices after evaporation, when they are brought to a state of syrups; also it may be applied to liquid syrups produced by the action of sulphuric acid upon farinaceous matters, before they have been reduced by evaporation, or after they have acquired a degree of consistency by evaporation. The syrup may likewise be produced by the solution of all kinds of sugar, and of the products of inferior qualities which are obtained in sugar refining, under the name of bastards, and other sugars. The object of the invention is to obtain whitened and purified syrups by the means above described. The whitening and purifying of the syrups are always proportionate to their primitive colour, and to the quantity of charcoal which is used.

"And I hereby disclaim all benefit and advantage to which I may be entitled under the said letters patent, and specification, so far as the process therein mentioned consists of the use of bituminous schistus or sand; but I retain the said process so far as it consists of the use of

The patent was granted in 1830. M. Derosne was a French gentleman, very eminent for his chemical science, and had been forty years engaged in scientific experiments. By his invention and patent he had not himself gained, clear of expenses (principally law charges), more than about 5,000*l.*, and it was urged on his behalf, and in favour of the extension, that very great credit was due to him, that the public had been very considerably benefitted, and that he had a fair claim to be more amply rewarded by having conceded to him the extension now sought. In 1812, M. Constant obtained a patent for an invention for facilitating to some extent the refinement of sugar. In 1813, Howard's patent was granted for an invention, which, though there were several other improvements, consisted principally in the boiling *in vacuo*,

animal charcoal, and the remainder of the said patent and specification, subject to the alterations before set forth.

"And I, the said Charles Derosne, do declare that the reason I desire to make the foregoing alteration in the title of the said patent, is to render the same clearer to the public, and to remove any doubts which may have arisen relative thereto, the invention being the same, but forming a part of, at present, two distinct processes; the first being the extraction of sugar from the cane-juice, and other substances containing sugar, in which process the invention is used previous to the syrups reaching a proper thickness or consistency for their first granulating into raw sugar; and the second process being the process of refining of sugar and syrups, in which the invention is used, after such raw sugar has again been converted into syrup by the admixture of water, for the purpose of obtaining a finer sugar, or for the purpose of making loaf-sugar.

"And I declare my reason for disclaiming the use of bituminous schistus, and the use of sand is, that the schistus cannot be used with so much advantage as the animal charcoal, for the following reasons:—

"First. Because although the schistus hitherto used by me, and obtained from France, will whiten and remove the colour from the syrups better even than animal charcoal, I do not consider the crystals of the sugar so large as when the animal charcoal alone is used.

"Secondly. Because the schistus hitherto discovered in England, is very inferior in its effects to that obtained in France; and

"Thirdly. Because the schistus being in its nature not so hard as animal charcoal, is not so capable of renewal as animal charcoal, and consequently is more expensive; and

"As regards the sand, because I am of opinion that the difficulty of regulating the use of it is such, that it cannot be so beneficially used in the process of extracting or refining sugar or syrups.

"And I further declare that my reason for making the other alterations in the foregoing specification, is to render the meaning thereof more clear and intelligible, as from the circumstance of my being a Frenchman, it has been said that the original specification was not well rendered into English.

"CHARLES DEROSNE."

and this became immediately in such almost universal use as to have produced to the inventor and those claiming under him nearly half a million of money. M. Derosne's patent consisted principally in the application of animal charcoal as a filter, in a way in which it had never been applied before, whereby a saving of 2*d.* per pound in refined sugar was gained by the public, and the quantity of ox blood necessarily used in the process was very considerably reduced. It appeared that the public were thenceforward enabled to consume sugar equal to the double-refined prior to this invention, at little more than the former cost of the coarsest quality. Charcoal had been used before, but was pulverized only, and thrown into the sugar *en masse* to take off all the impurities and colouring matter. By this invention animal charcoal only was used, and this was reduced into an impalpable powder, and placed upon a sort of colander, and then covered over with a suspended blanket. By this the impurities and colouring matter were cleared away, and the animal charcoal thus used admitted of being thoroughly cleansed and used again and again. The patentee had been obliged to have an agent in England, and to go to Jamaica, and, although he had granted many licenses and received large sums, had not clearly gained more than the sum above stated.

The Solicitor-General considered that it was an invention of very great importance, and hoped that their Lordships would be willing to extend to the inventor the benefit of it.

Mr. Waddington, for the Crown, stated, that he felt he should be fully performing his duty in leaving the matter in their Lordships' hands without occupying their time with any observations.

Lord Brougham briefly delivered the judgment of the Court.—Their Lordships had laid down this rule—that, first, there must be some invention; and secondly, there must be a benefit to the public, and a very considerable one, to warrant the extension of a patent. Here the benefit to the public did appear certainly very considerable, and out of proportion to the originality of the invention, and very considerable profit had accrued to the public, whilst the inventor had not profited very extensively; and under these circumstances their Lordships thought it right that there should be a larger extension than they would concede under ordinary circumstances. Their Lordships have

therefore determined to recommend an extension for six years from the time at which the former patent would, in this present year, have expired.*

* This is a very important case to manufacturers, and to all parties interested in patent property. Several years before the granting of this patent, charcoal, both animal and vegetable, had been used in purifying syrups of sugar, and patents had been taken, one by M. Constant, in 1812, and the other by Messrs. Martineau, in 1815. In both cases, the parties used the charcoal reduced to a fine powder, and mixed it with the syrup, and then separated the charcoal by filtration in bag filters. It will, therefore, be seen that the use of charcoal was not new, and that this patent was confined to its use as a filter through which the syrups of sugar were to be caused to pass. The filter made of charcoal, described in the specification, was not new, and it was so stated in the specification—indeed, it was well known that similar filters had been used for many years, when filtering almost every description of liquid. In fact, this patent was simply applying an old machine—a *filter of charcoal*—in the process of manufacturing sugar, by which that manufacture was greatly improved. Many persons, and even lawyers of high standing, have thought that a good patent could not be taken for simply applying an old machine to a new use. On the authority of this and other cases, it is clear that a machine, in patent law, is to be treated in the same manner as a raw material; and that any new application of either to a manufacture, which produces a beneficial result, is the proper subject for a patent.—W. C.

END OF VOL. I.

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ABANDONMENT—

The abandonment of a part of a machine (described and claimed as part of the invention), because it is useless, does not injure the validity of a patent.—*Lewis v. Marling*, 475

The trying experiments in public by one party who afterwards abandons them, or the making a machine which is destroyed before it is publicly worked, does not constitute a publication of the invention, such as to invalidate a patent taken by another person.—*Lewis et al. v. Marling*, 475; *Jones v. Pearce*, 524

ACCOUNT—

The Court of Chancery, when an injunction is refused, will, in most cases, direct the defendant to keep an account, in order that the Court may settle the amount of damages after the validity of the patent has been determined at law.—*Walker v. Congreve*, 356; *Russell v. Cowley et als.*, 531—See "INJUNCTION."

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An addition made to an old machine is a good subject for letters patent.—*Morris v. Bramson*, 30; *Boulton and Watt v. Bull*, 117—See "INVENTION."

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The withholding of any information on matters which would enable the public to practise an invention with greater advantage than what is stated in the specification will render a patent void.—*Wood et als. v. Zimmer et als.*, 290; *Lewis et al. v. Marling*, 475; *Crompton v. Ibbotson*, 458

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A jury may infer that a manufacture sold by a defendant is an infringement of a patent from any peculiar character common to the patent and to the article made or sold by the defendant, coupled with other circumstances, without having direct evidence of the exact machinery or process used.—*Huddart v. Grimshawe*, 200; *Hall v. Boot*, 423

CLAIM—

Formerly the practice was general, and even in modern times it is sometimes resorted to when drawing the specification of a patent, simply to describe the whole of the machinery or processes used in producing a particular manufacture without pointing out how much is old or how much is new. In all such cases, where the novelty is not obvious from reading the document, such specifications have been held to claim all that is described, and patents have been declared void under such circumstances, where old matter as well

CLAIM—continued—

as new matter has been found in a specification.—*The King v. Else*, 103; *Bramah v. Hardcastle*, 168; *Bovill et als. v. Moore*, 320; *Huddart v. Grimshawe*, 200; *Harmer v. Playne*, 260; *Macfarland v. Price*, 309; *Russell v. Cowley et als.*, 531

In other cases where specific claims have been made they have been too extensive, claiming old matter as well as new. In all such cases the patents have been declared void.—*The King v. Cutler*, 351; *Hill v. Thompson et al.*, 369; *Minter v. Mower*, 650; *Sanders v. Aston*, 510

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If up to a certain point the parts have been similarly combined, and the patentee only starts from that point of combination, and claims the whole combination, the patent will be void.—*Bovill et als. v. Moore*, 320

When a patent is taken for the combination of several things, the use of any of them separately or in partial combination will not be an infringement, though a slight departure would be a fraud.—*Hill v. Thompson et als.*, 369

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If the grounds on which the patent is granted fail, they being the consideration to the Crown for the grant, the patent is bad.—*Bainbridge v. Wigley*, 270; *Brunton v. Hawkes*, 405

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The specification is to be read in connexion with the patent, and with a view to support it.—*Russell v. Cowley et als.*, 531

The description of the invention is to be looked for in the specification, and not in the patent.—*Arkwright v. Nightingale*, 38

The construction of a patent and a specification is with the Court. The novelty, the utility, the sufficiency of the specification, and all matters of evidence, are for the jury. The meaning of the specification is with the Court.—*Hill v. Thompson et als.*, 369

The terms of the specification must be interpreted according to the state of knowledge at the time. The term, "*other substances*," must be understood as substances *ejusdem generis*, and in use at the time, and which practical men would employ.—*Crossley v. Beverley*, 480

If the specification, on its fair construction, excludes the use of a mandril, it will be presumed that the patentee does not claim the use of that instrument.—*Russell v. Cowley et als.*, 531

The specification should be read, consistently with the fair import of language, to make the claim co-extensive with the actual discovery.—*Haworth v. Hardcastle et als.*, 597

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The date of letters patent cannot be altered.—*Ex parte Beck*, 37;
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The changing the direction in which an instrument acts in a machine may be secured by patent.—*Lewis et al. v. Davis*, 471

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Are not required in a specification, if the invention can be made clear without them.—*Boulton and Watt v. Bull*, 117

If drawings or figures enable a workman to construct an improvement, it is as good as any written description.—*Brunton v. Hawkes et al.*, 410; *Bloxam et als. v. Else*, 434

A drawing may be put into a witness's hand to ascertain whether it represents a machine which he knew in use before a patent.—*The King v. Haddan*, 448

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The enrolment of a specification to letters patent will not be dispensed with when it is desired to prevent the invention becoming known abroad.—*Ex parte Koops*, 176

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Errors in the enrolment of a specification may be corrected by the Master of the Rolls.—*In re Redmund*, 463

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A defendant, being a licensee, is estopped from pleading that the patent is not valid by reason of want of novelty, or that no specification had been enrolled, when the deed of license recites matters to the contrary of such pleas.—*Bowman v. Taylor et al.*, 654

But if the plaintiff takes issue on such pleas, in place of demurring to them, though the pleas are bad, the judge at the trial, must admit evidence to prove the pleas.—*Bowman v. Rostron et als.*, 662

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A witness cannot speak to the contents of a document unless the document be put in evidence.—*Bloxam and others v. Else*, 434

When a second patent is taken for improvements on the invention described under a previous patent, the first patent must be put in evidence by the plaintiff in an action for infringing the second patent. But should the Title of the patent not refer to the previous patent, this evidence is not necessary.—*Lewis et als. v. Davis*, 471

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cation and of the novelty of the invention when they are denied.—*Turner v. Winter*, 105

The letters patent are *prima facie* evidence of the plaintiff's title, and it is for the defendant to impeach them.—*Minter v. Wells et al.*, 622

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A specification which so describes an invention as to require experiments in order to ascertain how it is to be performed, is bad.—*The King v. Russell*, 449

Experiments made before a patent by others than the patentee, and abandoned, although they be made in public, do not constitute a public using of an invention.—*Jones v. Pearce*, 524

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The Privy Council will take into consideration the merit of a petitioner (an assignee) who has expended money to introduce an invention, and the costs of litigation to which he has been put in protecting the patent.—*In re Whitehouse's Patent, Ex parte Russell*, 565

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If a patent states that paper may be made of any width from one to twelve feet, and it turns out that only one width could be made in the machine described, the patent will be void.—*Bloxam v. Elze*, 434

The failure of the consideration for which letters patent are granted renders the patent void.—*Bainbridge v. Wigley*, 270; *Brunton v. Hawkes*, 411

A part of machine for shearing cloth, and which was claimed in the specification, was abandoned by the patentee because it failed. Held that the patent was not thereby invalidated.—*Lewis et al. v. Marling*, 475

FALSE SUGGESTION—

The invention being described as producing several things by the same process, if the mode fail as to one, the patent is bad.—*Turner v. Winter*, 105

But where the specification describes that the machinery, according to the invention, will hang fabrics up on rails to dry, and when dry, take them down again, and it turns out the machinery failed to take down in some cases, the invention in other respects being useful, the patent is not void.—*Haworth v. Hardcastle and others*, 597

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The construction of a specification is to be according to the grammatical sense, unless a different or perverted meaning is shown to be recognised in a trade.

A tapering brush means a brush which converges to a point.—*The King v. Metcalfe*, 392

To "discolor," when applied to sugar, is known in the trade to express the process of depriving sugar of colour.—*Derosne v. Fairrie et al.*, 664

The calling of an ordinary screw "a vis," at the same time referring to a drawing, which showed correctly what was meant, is not prejudicial to the validity of the patent.—*Bloxam v. Elze*, 434

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Of the sole importing of any article of manufacture is void.—*Darcy v. Allen*, 26

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The Statute of 21 James I., c. 3, directs the grant to be to the first and true inventor, and it has ever been held that a person introducing an invention into this country from abroad, is, in respect to this country, the first and true inventor.—*Edgeberry v. Stephens*, 35

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A patent for the sole importation of any article of manufacture is void.—*Darcy v. Allen*, 26

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Where an invention turns out to be only an improvement of what had been done before, and the whole matter described not new, the patent is bad, if the improvement be not pointed out so as to separate it from the other matters described.—*Hill v. Thompson et al.*, 369; *Bovill et al. v. Moore*, 320; *Bramah v. Hardcastle*, 168; *Macfarland v. Price*, 309

But where a patent is described to be improvements on machinery secured by previous letters patent, the grant will not be invalidated by the second specification describing the whole of the machinery in the most improved state, without separating the new from the old, as that may be ascertained by comparing the two specifications.—*Harmer v. Playne*, 246

Improvements on an invention made after the patent may be used by the patentee, without injuring the validity of his patent; but if made before the enrolment of the specification, and the specification is silent thereon, the patent will be void.—*Bovill et al. v. Moore*, 320

A patentee is bound to put into his specification the improvements which he has made in carrying out his invention before enrolling his specification.—*Crossley v. Beverley*, 480

When a patent is taken for improvements of an old machine, the patentee has no right to the old machine; and a patent taken by the same patentee for improvements of the invention secured by previous letters patent, does not extend the time during which he has a right to the original invention.—*Boulton and Watt v. Bull*, 117; *Harmer v. Playne*, 246

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The question of fact whether a patent is infringed, is for the jury. The legal question of what constitutes an infringement depending on the construction of the specification is for the Court; and the Court will say to a jury, "The question for your consideration is, whether the principle is the same; whether the effect obtained by stopping the apertures is the same means: whether the means differ in shape or not is not material."—*Bramah v. Hardcastle*, 168; *Cochrane and Galloway v. Braithwaite et al.*, 492

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INFRINGEMENT—continued—

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A specification which described the invention for welding iron tubing, to consist of drawing the tube at a welding heat through dies without internal support, was held to be infringed by performing a like act by grooved rollers.—*Russell v. Cowley and others*, 531

Exposing for sale an article (which, if made, used, or put in practice by the defendant, would be an infringement) is not an infringement.—*Minter v. Williams*, 647

A specification claiming the right to apply a rotatory cutter from list to list by machinery, will be infringed by a machine which differs in many particulars so long as the common property of using a rotatory cutter cutting from list to list is found in the defendant's machine.—*Lewis et al. v. Davis*, 471; *Jones v. Pearce*, 524

A specification which claims the application of detonating mixtures, as priming for fire-arms, is infringed by the making, using, or selling of any fire-arms to be discharged by such priming, though the locks or instruments used are different from those described in the specification.—*Forsyth v. Riviere*, 401

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The Court of Chancery will not dissolve an injunction, where the Court of Law is equally divided on the validity of the patent.—*Boulton and Watt v. Bull*, 117

In cases where the public has allowed the patentee a reasonably long undisputed possession, the Court considers it less inconvenient to grant than to refuse the injunction.—*Harmer v. Playne*, 246; *Haworth v. Hardcastle et als.*, 597; *Beeston v. Ford*, 491

The Court will restrain a public department under the Crown from practising a patented invention without license.—*Walker v. Congreve*, 356

In applying for an injunction, the affidavits must point out the nature of the patent, and wherein it has been infringed; and the plaintiff must swear that he believes that the invention was new at the date of the patent.—*Walker v. Congreve*, 356; *Hill v. Thompson et als.*, 369

The Court of Chancery will not grant an injunction where it considers the specification bad.—*Sturtz v. De la Rue*, 463

A patentee having taken a patent in 1818, did not put it into use till 1829. The Court would not grant an injunction to restrain other parties from using the invention till the validity of the patent had been ascertained by a trial in a Court of Law.—*Cochrane et al. v. Braithwaite et als.*, 492

The Court of Chancery will not interfere by injunction to restrain a patentee proceeding at law against a licensee to recover patent-rent in cases where the licensee is estopped at law, by the recitals of the license from showing that the invention is old.—*Collinge v. Bowman*, 660

A patentee knowing of an infringement, must not lie by, and after unreasonable delay, come in and claim the profits made by the infringement.—*Crossley v. Beverley*, 480

The Court of Chancery, in granting an injunction against a defendant, if urged to do so, will direct a trial at law to ascertain the

INJUNCTION—continued—

validity of the patent, although another action is pending at the time.—*Russell v. Barnsley*, 563

The Court of Chancery will restrain a defendant from making parts of machinery, preparatory to the expiring of a patent.—*Crossley v. Beverley*, 480

INROLMENT, See ENROLMENT—**INSPECTION—**

The Court of Chancery will order an inspection of the defendant's works, if a reasonable case of suspicion is made out.—*Russell v. Cowley and others*, 531

INVENTION—

The doing an act by a tube in a manufacture, which had before been done by a ring, when more beneficial, is a substantive invention.—*Huddart v. Grimshawe*, 200

The applying like means and apparatus for making oillet-holes in knit fabrics to what had before been used for narrowing knit fabrics, is an invention which may be secured by patent, even though the original machinery may at the time be secured by a patent.—*Morris v. Bramson*, 30

The application of a known substance, and the application of a known machine to a new purpose, so as to improve a manufacture, may be secured by letters patent.—*Lord Dudley's Patent*, 15; *Forsyth v. Riviere*, 401; *Derosne v. Fairrie et al.*, 664

The leaving out of an instrument in a manufacture, is an invention which may be secured by letters patent.—*Russell v. Cowley et al.*, 531

The use of the flame of gas to singe off the projecting fibres of lace, is an invention, notwithstanding other flames had been used for the same purpose.—*Hall v. Boot*, 423

The use of wood or other clothing to the steam-cylinder of a steam-engine to keep in the heat, and save fuel, is an invention.—*Boulton and Watt v. Bull*, 117

The use of oil and grease, in place of water, in keeping a piston air-tight, is an invention.—*Boulton and Watt v. Bull*, 117

The combination of several old matters or instruments, so as to improve a manufacture, or make a new machine, is an invention; but to secure it by patent, the specification must shew that the invention only claims the combination, and not the parts separately.—*Haworth v. Hardcastle and others*, 597; *Huddart v. Grimshawe*, 200; *Bovill et al. v. Moore*, 320; *Bramah v. Hardcastle*, 168; *Minter v. Wells et al.*, 622; *Hill v. Thompson et al.*, 369

The substituting metal vessels in place of wooden casks for containing gunpowder, is an invention.—*Walker v. Congreve*, 356

The using metal plates after a particular method to obtain a new and beneficial result thereby, is an invention.—*Hartley's Patent*, cited in *Boulton and Watt v. Bull*, 117

The changing the direction in which a particular instrument is caused to act in a machine, is an invention.—*Lewis et al. v. Marling*, 475

The using an old construction of filter to filter syrups of sugar, so as to improve that manufacture, is an invention.—*Derosne v. Fairrie et al.*, 664

The combining of two lenses together, made of different refracting powers, so that the errors of one shall correct the errors of the other, is an invention.—*Dollond's Case*, 28

The converting malt into colouring matter by higher temperatures than malt had been previously subjected to, is an invention.—*The King v. Wheeler*, 394

INVENTOR—

A person making an invention and using it in secret, is not at law considered the first inventor, and does not invalidate a patent taken afterwards by another person.—*Dollond's Case*, 28

And a person making experiments in public in respect to an invention, and abandoning it, is not at law the first inventor.—*Jones v. Pearce*, 524

A patentee who obtains his knowledge of an invention from abroad, is at law the first inventor.—*Edgoberry v. Stephens*, 35

If the patentee can be shown to have borrowed or obtained his invention from another in this country, he is not the inventor.—*Tennant's Case*, 177; *Lewis et al. v. Marling*, 475

The party who has invented and introduced an invention under a patent, is at law the first inventor, though a model and a specification of a similar machine had been previously brought into this country and shown to several persons, and who were, therefore, in a position to use the invention before the patent.—*Lewis et al. v. Marling*, 475

The person who suggests the principle, and not he who works it out, is the inventor.—*Minter v. Wells et al.*, 622

Where several persons have invented the same thing, neither putting it into public use, he who first obtains letters patent is the first inventor.—*Lewis et al. v. Marling*, 475; *Foreyth v. Riviere*, 401

A person taking letters patent for an invention communicated to him from abroad, is not less the first inventor in this country because he is not the assignee or representative of the inventor.—*Russell v. Ledsam et al.*, 564

JURY—

The questions of novelty, of utility, of infringement, and of the sufficiency of the specification, are for the jury.—*Boulton and Watt v. Bull*, 117

LETTERS PATENT—

For inventions saved from the Statute of Monopolies.—See "Statute 21 James I., c. 3."

Date of letters patent not to be before the delivery of the Privy Seal Bill to the Lord Chancellor.—See "Statute 18 Hen. VI., c. 1."

The Lord Chancellor will not alter the date of the patent, nor can he take the Great Seal off the patent.—*Ex parte Beck*, 37

Extension of letters patent.—See "Statute 5 and 6 Will. IV., c. 83."

The letters patent and the specification are to be taken together as one document.—*Crossley v. Beverley*, 480

LICENSE—

Money paid for a license to use an invention under a patent cannot be recovered on discovering that the patent is void.—*Taylor v. Hare*, 243

LICENSEE—

Under letters patent a competent witness.—*Deroene v. Fairrie et al.*, 664

MACHINERY—

A patentee cannot claim the doing that by machinery which had before been done by hand; but he must confine his claim to particular machinery.—*Brown v. Moore, et al.*, 305

A patentee entitled to the sole use of a machine, is entitled to prevent its being used or imitated in part or in the whole.—*Lord Chief Justice Gibbs*, 350

MAKING—

The making of any article before the date of letters patent taken to secure the same, for other purposes than those of sale and commerce, does not invalidate a patent.—*Dellond's Case*, 28; *Bramah v. Hardcastle*, 168; *Lewis et al. v. Marling*, 475

MANUFACTURES—

The Crown has the right to grant letters patent for a period not exceeding fourteen years, for the sole use of any manner of new manufactures, such grants being saved by the Statute of Monopolies.—See "Statute 21 James I., c. 3."

Welded iron tubes having been made by the circumferential pressure of grooved rollers, using an internal mandril to form and keep the interior of the tubes open, it is a new manufacture to use like rollers without a mandril.—*Russell v. Cowley, et al.*, 531

The so arranging of a rotatory cutter in a machine that it shall cut woollen cloth from list to list, is a new manufacture, although cutting from list to list by other cutters had been commonly done before, and although a patent existed claiming the use of rotatory cutters generally, but wherein the machine was so arranged as to cut lengthways of the cloth.—*Lewis et al. v. Davis*, 471

The use of a flame of gas for doing an act previously done by the flame of an oil lamp, is a new manufacture.—*Hall v. Boot*, 423

The application of detonating powder to discharge fire-arms is a new manufacture.—*Forsyth v. Riviere*, 401

The use of an old filter to filter syrups of sugar so as to improve the manufacture of sugar, is a new manufacture.—*Dervesse v. Fairrs et al.*, 664

The use of the same means in a machine for making oillet-holes in knit fabrics which had before been used, and were at the time protected by letters patent for narrowing knit fabrics, is a new manufacture.—*Morris v. Bramson*, 30

Manufactures under the Statute are reduceable to two classes; the first including machinery, the second substances. The word "manufacture" is of extensive signification. It applies not only to things made, but to the manner of making,—to principles carried into practice.—*Boulton and Watt v. Bull*, 117

A new method of so disposing plates of iron as to render houses fire-proof, is a new manufacture.—*Hartley's Patent*, cited in *Boulton and Watt v. Bull*, 117

The word manufacture has been generally understood to denote either a thing made, or it may mean a process carried on by known implements or elements.—*The King v. Wheeler*, 394

There may be a valid patent for a new combination of materials previously in use for the same purpose, or for a new method of applying such materials.—*Hill v. Thompson et al.*, 369

The combining of old mechanical parts into a new machine, or for differently combining parts into a machine to produce a similar but better machine, although every one of the parts was old, would entitle the inventor to a patent as a new manufacture.—*Bovill et al. v. Moore*, 320; *Boulton and Watt v. Bull*, 117; *Bramah v. Hardcastle*, 168; *Huddart v. Grimshave*, 200; *Haworth v. Hardcastle et al.*, 597; *Lewis et al. v. Marling*, 475

MATERIALS—

If a patentee in his specification states that he uses materials more costly than what he actually uses, though the materials mentioned will do, the specification is bad, and the patent invalid.—*Turner v. Winter*, 105

MEMORANDUM OF ALTERATION, See "ALTERATION" and "DISCLAIMER"—

METHOD—

A patentee using the words method and machinery as convertible terms, the validity of the patent is not thereby injured.—*Boulton and Watt v. Bull*, 117

A method of arranging plates of iron or other matter to produce a particular effect, if new and useful, may be secured by letters patent as a new manufacture.—*Hartley's Patent*; cited in *Boulton and Watt v. Bull*, 117

MISLEAD—

The introduction of matters or statements into a specification which will mislead the public, will invalidate the patent.—*Turner v. Winter*, 105

MISTAKES, See "ERRORS"—

MONOPOLY—

An allowance from the Crown of or for the sole buying, selling, making, working, or using of anything whereby persons are restrained of any freedom they had before, is void.—*Darcy v. Allen*, 26

All monopolies declared void by the Statute, 21 James I., c. 3. Grants of letters patent for inventions being saved.—11

NEW TRIAL—

The Court will not grant a new trial simply to allow the defendant in a writ of *scire facias* to bring more evidence.—*The King v. Arkwright*, 53

The fact of a *scire facias* is a ground for not entertaining a particular objection to a patent on a motion for a new trial.—*Haworth v. Hardcastle et als.*, 597

New facts which would be grounds for repealing letters patent by *scire facias*, will not be received on motion for a new trial.—*Lewis et als. v. Marling*, 475

NOTICE OF OBJECTIONS, See "Statute 5 and 6 Will. IV., c. 83, s. 5"—

NONSUIT—

It being proved in an action for infringement that the patentee had obtained his invention from a person in conversation, the plaintiff was nonsuited.—*Tennant's Case*, 177

NOVELTY—

The question is whether the invention was known, and in public use before.—*Liardet v. Johnson*, 35

To support a patent it must be shown that the invention is new and useful.—*Manton v. Manton*, 278

The sale of the manufacture by the patentee before the granting of the patent, will vitiate the subsequent grant.—*Wood et als. v. Zimmer et als.*, 290

OBJECTIONS—

The defendant in an action for infringement, and the plaintiff in a writ of *scire facias*, must state the objections on which he intends to rely at the trial, and no other objections will be receivable in evidence.—See "Statute 5 and 6 Will. IV., c. 83."

OMISSION—

Of part of a process may be a new manufacture.—*Russell v. Cowley et al.*, 531

A patentee omitting to tell a process which he considers useful, renders the patent void.—*Turner v. Winter*, 105; *Hill v. Thompson et al.*, 369

PART—

If a material part of an invention fail, the entire discovery forming the consideration for the patent, the grant is void.—*Hill v. Thompson et al.*, 381

PATENT, See "LETTERS PATENT"—

PLEA—

The defendant being a licensee may in some cases plead that the patent is invalid, and that no specification has been enrolled.—*Hayne et al. v. Maltby*, 113

But he is estopped when the license recites that the patent was granted for a new invention.—*Bowman v. Taylor et al.*, 654

A plea setting forth that a patent is void because the renewal of the patent, under the Statute, did not take place till after the expiration of the first patent, is bad.—*Russell v. Ledsam et al.*, 564

PRINCIPLES—

Reduced into form and practice, constitute new manufactures; but no valid claim can be made to the exclusive use of a principle unreduced to practice. A principle is the first grounds and rule for arts and sciences, or, in other words, the elements, they therefore are not a ground for a patent. A patent must be for some new production from those elements, and not for the elements themselves.—*Boulton and Watt v. Bull*, 117

If a patentee has only invented an improvement in applying a principle which has been before applied to the same object, and he claims the general application of the principle, the patent will be bad.—*The King v. Cutler*, 351

Every patent must contain the application of some principle. A patentee does not claim the principle of a self-adjusting leverage when he sums up his specification, by saying that he claims the application of a self-adjusting leverage to the back and seat of a chair, but he claims a machine containing for the first time that principle, and any chair containing that principle would be an infringement of the patent.—*Minter v. Wells et al.*, 622

PRIVY COUNCIL—

May advise the Crown to extend the term of letters patent, and also it may advise the Crown to confirm letters patent in the event of some previous public use.—See "Statute 5 and 6 Will. IV., c. 83."

PROLONGATION OF LETTERS PATENT, See "PRIVY COUNCIL"—

PROCESS—

To describe a long and difficult series of processes in order to obtain products, the use of which in a particular manner alone constituted the invention, is bad where the products are well known.—*Savery v. Price*, 431

PROPORTIONS—

The combination of matters within certain proportions, so that more advantageous results are thereby obtained, is a new manufacture, which may be protected by patent, although the same matters

PROPORTIONS—*continued*—

in different proportions have been used for like purposes before the patent.—*Hill v. Thompson et al.*, 369

PUBLIC USE—

An invention is not considered to have been in previous public use because a model had been brought into this country, and a specification from America, which had been shown to several manufacturers; neither is the making of a machine which, being completed, is destroyed and not renewed.—*Lewis et al. v. Marling*, 475

The making and using object glasses of a telescope in private for years before the granting of a patent, is not a publication to the prejudice of the patent.—*Dallond's Case*, 28

The previous publication of the same description of article, for which a patent has been taken, in a well-known book, is evidence of want of novelty.—*The King v. Arkwright*, 53

The making and using of wheels before a patent, if the wheels, on becoming injured, are not renewed but abandoned, is treated as an abandoned experiment.—*Jones v. Pearce*, 524

If any part of an invention claimed in a patent is shown to have been described in a specification enrolled before the grant, it will render the patent void.—*Huddart v. Grimshawe*, 200

The making of articles according to an invention before taking letters patent therefore, is not a publication of the invention.—*Bramah v. Hardcastle*, 168; *Minter v. Wells et al.*, 622

A sale of articles by the patentee before obtaining letters patent, is a public use, such as will render the grant void.—*Wood et als. v. Zimmer et als.*, 290

STATUTES—

21 James I., c. 3 (9); 11 Hen. VI., c. 1 (16); 13 Eliz., c. 6 (17); 5 and 6 Will. IV., c. 83 (17); 2 and 3 Vic., c. 67 (123).

SCIRE FACIAS—

A disclaimer and memorandum of alteration may be given in evidence though enrolled, pending the suit.—*See* "Statute 5 and 6 Will 4, c. 83."

The fact of there being a *scire facias* pending is a ground for refusing a nonsuit in an action.—*Haworth v. Hardcastle*, 597

The suggestion in a writ of *scire facias* that the grant is prejudicial and inconvenient to the subject in general, is too vague, it should state in what particular; and no evidence will be received under such issue.—*The King v. Arkwright*, 53

SECRET USING, *See* "PUBLIC USE"—

SPECIFICATION—

The object of the grant of letters patent requiring a specification is, that after the term has expired the public shall have the benefit of the invention.—*Liardet v. Johnson*, 35.

The meaning of the specification is, that others may be taught to do that which is claimed as the invention, and therefore if any disguise or withholding of information be proved, the patent will be void.—*Liardet v. Johnson*, 35; *Wood et als. v. Zimmer et als.*, 290; *Turner v. Winter*, 105; *Crompton v. Ibbotson*, 458; *The King v. Arkwright*, 53; *Bovill et als. v. Moore*, 320; *Savory v. Price*, 431; *Derosne v. Fairrie et al.*, 664

The time allowed for enrolling a specification is to enable the patentee to mature his invention, and he is required to give the best information he can at the time of enrolling his specification.—*Crossley v. Beverley*, 480

The clearness of a specification must be according to the subject

SPECIFICATION—*continued*—

matter of it; it is addressed to persons having skill in the particular manufacture.—*Crompton v. Ibbotson*, 458; *The King v. Arkwright*, 53; *Huddart v. Grimshawe*, 200; *Sturtz v. De la Rue*, 463; *Crossley v. Beverley*, 480; *Savory v. Price*, 431

A specification which claims the exclusive right of making lace composed of silk and cotton thread mixed, not describing or confining the invention to a particular mode of mixing them, is bad if it be proved that silk and cotton had been before mixed when making lace, though in a manner different to that practised by the patentee.—*The King v. Elae*, 103

The description of an invention contained in a specification should be so clear that a skilful workman, by following the statement, and that without experiment, shall produce the invention.—*Turner v. Winter*, 105; *Derosne v. Fairrie et al.*, 664

A patentee is not required to describe matters and things which are well known to the trade, and it is prejudicial to enter into intricate descriptions of processes when the products of such processes are well known and can be purchased.—*Boulton and Wall v. Bull*, 117; *Savory v. Price*, 431; *Crossley v. Beverley*, 480

Where a patentee states that the schistus to be used for the invention is to be deprived of any iron it may contain, yet gives no direction how it is to be done, and the requisite knowledge is not found to be possessed by persons in the trade, nor by persons whom they would consult, the patent is bad.—*Derosne v. Fairrie et al.*, 664

It is not sufficient for a patentee in his specification to show how a machine is to be constructed, or a process performed, but he must point out wherein the invention consists; and where old and new matters are described, the specification must be so drawn as to point out the invention separate from the old matters described.—*Macfarland v. Price*, 309; *Bramah v. Hardecastle*, 168; *Hill v. Thompson et al.*, 377; *Huddart v. Grimshawe*, 200; *Bovill et al. v. Moore*, 320; *Harmer v. Playne*, 246

A patentee in his specification stating that an act may be done with a fabric consisting of a linen warp and woollen weft, or any suitable material, is bad, if other materials (which parties would have recourse to if they did not possess the particular fabric mentioned) would not succeed; and if the patentee knew such to be the fact he ought to have guarded the public against using other fabrics.—*Crompton v. Ibbotson*, 458

A specification which states that "the finest and purest chemical white lead" was used in the invention, it turned out that no such lead was known in the English market, and that none of the white lead made in England would do, the specification was considered bad.—*Sturtz v. De la Rue et al.*, 463

When the title of a patent proposes to accomplish several things a specification will not be sufficient if it is silent on any one of them.—*Felton v. Greaves et al.*, 488; *Jones v. Ripley et al.*, 611

SUBJECT MATTER, *See* "INVENTION" and "MANUFACTURES"—

TITLE—

A patent taken for "an improvement of a *refracting telescope*," or for "an *improved refracting telescope*," would require the same specification.—*Dollond's Case*, 28

An objection to the title of a patent, because it contains several things, will not prevail in a Court of Law; such an objection does not invalidate a patent; it is the duty of the Attorney-General's clerk to prevent such titles passing.—*Arkwright v. Nightingale*, 38

The title in the patent and the specification are to be read together, and to know what the patent means the specification is to be read as if incorporated in the patent.—*Hornblower et al. v. Boulton and Watt*, 156

TITLE—continued—

A patent was taken for "*improvements on the English flute or flageolet*," and the specification claimed to have obtained in such instruments two new notes, it turned out that only one new note had been produced, it was considered that the patent was bad.—*Bainbridge v. Wigley*, 270

A patent was taken, the title of which was "*a method or methods of more completely lighting cities, towns, and villages*." The specification described improvements on an ordinary street lamp. The patent was declared to be uncertain and improper, and the patent void.—*Cochrane (Lord) v. Smethurst*, 311

A patent was taken for "*a tapering hair-brush*." The invention was described as consisting of making each of the tufts of the brush of hair of various lengths. The Court held that tapering meant converging to a point, and therefore unless it could be shown that the word "*tapering*" had been before used by the trade in a like perverted sense, the title would be bad; and such not being the case the patent was declared void.—*The King v. Metcalfe*, 392

A patent was taken for "*A new or improved method of drying and preparing malt*." The specification described an invention for producing a soluble colouring matter from malt by raising malt to a high degree of temperature, by which the character of the malt was destroyed, and a colouring matter produced. The Court held that the title in the patent represented one thing and the specification a different thing, and therefore the patent was void.—*The King v. Wheeler*, 394

The title of a patent was "*A new or improved method of making and manufacturing double canvass without any starch whatever*." The Court held that a person reading the title would imagine that the patent depended for its utility on the leaving out of starch. At the trial it turned out that starch had before been left out in the making of canvass; at the same time the invention disclosed by the specification was very valuable. The Court held the patent to be bad.—*Campion v. Benyon*, 418

When a title of a patent applies to several different matters the patent will be void, unless the specification shows how the invention is carried out in respect to each part of the title.—*Felton v. Greaves et al.*, 488; *Jones v. Ripley et al.*, 611

A patent was taken for "*certain improvements in copper and other plate printing*." The invention consisted in giving to the surface of paper or card board a white enamelled surface by which the effect of an engraving afterwards produced thereon was improved. It was objected that there was no improvement in copper or other plate printing; the improvement was in the paper. The Court held that where a manufacture consisted of many processes, the improvement in any one or more of such processes, so that the ultimate manufacture was improved, would be correctly stated by a patent which stated that the party had invented *improvements in the manufacture*. The title "must unquestionably give some idea, and so far as it goes a true idea of the alleged invention, and the specification may be brought in aid to explain it."—*Sturtz v. De la Rue*, 463

USE, See "PUBLIC USE"—

USEFUL—

A patent must not only be new but useful.—*Manton v. Manton*, 278.

A part of a machine for shearing cloth which was claimed in the specification was abandoned by the patentee. It was held that the patent was not thereby invalidated.—*Lewis et al. v. Marling*, 475

But where a patent is taken for several things which are separate and distinct, and not combined into one machine or manufacture,

USEFUL—*continued*—

then if one fails in respect to novelty or utility the patent is void.—*Brunton v. Hawkes et al.*, 405

It is not necessary to the validity of a patent that the invention should be useful in all cases to which it is proposed to apply it.—*Haworth v. Hardcastle*, 597

If a thing described as essential to the invention be found to be useless, the patent will be void.—*Lewis et al. v. Marling*, 475 ; *Hill v. Thompson et al.*, 369

A patent taken for improvements on a former patent will not be invalidated by the former patent being useless or otherwise being bad.—*Lewis et al. v. Marling*, 475

VENUE—

Will not be changed from Westminster to Northumberland or other place.—*Cameron v. Gray*, 173 ; *Brunton v. White*, 447

WORDS—

The use of words incorrectly if the meaning in which they are used is clear, will not injure the patent.—*Derosne v. Fairrie et al.*, 664 ; *The King v. Metcalfe*, 392 ; *Bloxam v. Else*, 434







